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A Philosophy of Humour

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Contents

1

Introduction

Abstract In this chapter, I introduce the discipline of philosophy, defend humour as a philosophical topic and address the question 'What is humour?'

Keywords Humour • Amusement • Funniness

People say to start with a joke, but I'm going to go one better by starting with the funniest joke in the world:

> Two hunters are out in the woods when one of them collapses. He doesn't seem to be breathing and his eyes are glazed. The other guy whips out his phone and calls the emergency services. He gasps, 'My friend is dead! What can I do?' The operator says, 'Calm down, I can help. First, let's make sure he's dead.' There is a silence, then a shot is heard. Back on the phone, the guy says, 'OK, now what?'

This joke was recently voted the funniest in the world during an international poll with over 40,000 jokes and almost 2,000,000 ratings (Wiseman 2015, 217). So, if you have not promptly died of laughter as per *Monty*

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Python's sketch 'The Funniest Joke in the World', then your sense of humour is malfunctioning and in need of some maintenance. Luckily, this book can provide that maintenance because it is titled *A Philosophy of Humour*. Let's unpack that title starting with the word 'philosophy'.

The word 'philosophy' comes from the Greek words *philo* and *sophia* meaning 'love' and 'wisdom', so philosophy is literally 'the love of wisdom'. What this essentially amounts to, I would argue, is using reason to address fundamental questions. Questions like:

What is the meaning of life?
Do I have free will?
Is there a God?
How should we organise society?

At this point philosophy and humour may seem an odd mix. After all, philosophy is clearly a weighty discipline and humour a light topic. But there are good reasons to consider humour a worthwhile topic for philosophical study.

First, humour is universal across humanity. Laughter has been discovered in every known human culture and can be experienced by almost everyone (Apte 1985; Lefcourt 2001). The sound of laughter is one of the few non-verbal expressions which remains recognisable from one culture to another (Sauter et al. 2010). Moreover, the average person laughs around 17 times a day and at the rate of about 5 laughs for every 10 minutes of conversation (Martin and Kuiper 1999; Vettin and Todt 2004).

Second, humour is important to humanity. Your sense of humour determines what books you read, what films you watch and what relationships you have. Both men and women prefer romantic partners with a good sense of humour and sexually attractive people are more likely to be seen as funny (Lippa 2007; Cowan and Little 2013). In addition, married couples who use laughter when discussing relationship conflicts not only feel better afterwards but also report higher levels of marital satisfaction and stay together for longer (Whalen 2010; Yuan et al. 2010).

Third, humour is beneficial for humanity. Laughter is followed by a period of muscle relaxation with a corresponding decrease in heart rate and blood pressure (Bennett and Lengacher 2008). Humour helps people

cope with stressful situations to the extent that laughter therapy can even improve the quality of life of those affected by cancer (Cho and Oh 2011; Demir 2015). Furthermore, laughter enables people to think more broadly and flexibly when approaching problems that demand a creative solution (Martin and Ford 2018, 161–162).

Surely all this makes humour a legitimate topic to furrow a few philosophical brows. Great philosophers such as Plato, Aristotle, Kant, Hobbes and Schopenhauer have certainly thought so. Wittgenstein even said that 'a serious and good philosophical work could be written that would consist entirely of jokes' (Malcolm 1984, 27–28).[1] The notion of sitting down with a joke-book and becoming wiser after a few chuckles does indeed sound appealing. Though, sadly, this book is not a philosophical work *consisting* of humour but rather a work *about* humour. If philosophy is using reason to address fundamental questions, then a philosophy of humour uses reason to address fundamental questions about humour. The fundamental question which this book addresses is:

What is humour?

You see, humour is a funny thing—everyone knows it but no-one knows what it is.

An immediate response to the question 'What is humour?' might be to point out humour in the world, including text like Groucho Marx's quote 'I intend to live forever or die trying', images like the *New Yorker* cartoon of Che Guevara wearing a Bart Simpson t-shirt, audio like the Flight of the Conchords' song *Most Beautiful Girl (in the Room)* and videos like the boxing scene in Charlie Chaplin's film *City Lights*. But this immediate response misses the mark as these are all *examples* of humour whereas the question, taken philosophically, concerns humour *itself*. To make this clearer the question could be rephrased as 'What does the word 'humour' mean?'

An immediate response to *this* question might be to look up the word 'humour' in the dictionary. But doing so only reveals an uninformative

[1] Wittgenstein (2009, 98) certainly seemed to think that jokes were philosophically significant when he said 'Let us ask ourselves: why do we feel a grammatical joke to be deep? (And that is what the depth of philosophy is)'.

circle of definitions that cycles between 'humour', 'amusement' and 'funny'. The *Oxford English Dictionary* provides a typical example (Soanes and Stevenson 2004, 695, 45, 576):

> *humour (n.)* The quality of being amusing or comic, especially as expressed in literature or speech.
> *amusement (n.)* The state or experience of finding something funny.
> *funny (a.)* Causing laughter or amusement; humorous.

This circle of definitions reflects common usage of the words 'humour', 'amusement' and 'funny' in everyday speech. Indeed, people often speak as though humour, amusement and funniness are roughly the same thing.[2]

However, I argue that humour, amusement and funniness are three closely-related but distinct concepts. So, to avoid confusing these distinct concepts, I split the original question 'What is humour?' into three separate questions:

> **Question 1:** What is amusement?
> **Question 2:** What is funniness?
> **Question 3:** What is humour?

Separately addressing these three questions allows me to untangle the dictionary's uninformative circle of definitions into my own informative sequence of definitions.[3] This sequence takes the definition of amusement as foundational by building on it to give the definitions of funniness and humour in terms of amusement. Hence, if my sequence of definitions is to be informative and non-circular, then I cannot make reference to funniness or humour when giving the definition of amusement.

[2] Philosophers are usually no better. For example, Berys Gaut (1998, 53) begins a paper by stating that he 'will speak interchangeably of the humor, funniness or amusingness of jokes', and Jerrold Levinson (2006) does something similar.

[3] See Alan Roberts (2016) for an earlier version of this sequence of definitions, which I have since improved.

In Chapter 2, I address Question 1, Question 2 and Question 3 by examining amusement, funniness and humour. To ensure that my sequence of definitions is non-circular, I treat 'amusement', 'funniness' and 'humour' as if they were unknown words and refrain from using them without introduction. The same goes for associated words such as 'joke', 'laughter' and 'slapstick'. In Chapters 3 to 6, I then focus on completing the definitions outlined in Chapter 2. For ease of reference, the key claims of each chapter are summarised in the chapter summary at the end of the chapter.

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2

Amusement, Funniness and Humour

Abstract In this chapter, I address Question 1, Question 2 and Question 3 from Chapter 1 by examining amusement, funniness and humour. In Section 1, I address Question 1 by examining amusement, in Section 2, I address Question 2 by examining funniness and, in Section 3, I address Question 3 by examining humour. Finally, in Section 4, I summarise the key claims of this chapter.

Keywords Amusement • Subject • Object • Funniness • Humour

1 What is Amusement?

John Morreall (1987, 4) points out that the word 'amusement' has a wide sense and a narrow sense. According to the wide sense, to be amused is to have one's attention agreeably occupied in a general way. For example, if one agreeably occupies one's attention on a rainy day with board game, then one is being amused in the wide sense. According to the narrow

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sense, to be amused is to have one's attention agreeably occupied in a particular way. To specify this particular way is actually to give a definition of amusement. So, for now, I will merely illustrate the narrow sense of 'amusement' with the help of some examples:[1]

> To lose one parent, Mr. Worthing, may be regarded as a misfortune; to lose both looks like carelessness. (Wilde 2008, 361)

> I can't sit still and see another man slaving and working. I want to get up and superintend, and walk round with my hands in my pockets, and tell him what to do. (Jerome 2004, 29)

> The Right Hon. was a tubby little chap who looked as if he had been poured into his clothes and had forgotten to say 'When!' (Wodehouse 2008, 33)

> Outside of a dog, a book is a man's best friend. Inside of a dog it's too dark to read. (Marx 2008, xv)

> In the beginning the Universe was created. This has made a lot of people very angry and been widely regarded as a bad move. (Adams 2009, 1)

Hopefully, these examples will have done the trick and the reader has an intuitive grasp of the state of mind referred to by the narrow sense of the word 'amusement'. It is this mental state that I am concerned with and so, from now on, I use the word 'amusement' in the narrow sense.

My first observation about amusement is that it requires both a subject and an object.[2] It seems that any occurrence of amusement requires both a subject to be amused and an object for them to be amused by. As Robert Sharpe (1987, 208) rightly says, 'to be amused at nothing is … odd or possibly pathological'. Of course, it is possible to be amused by something which one mistakenly thought to be the case, such as when a misheard request sounds like an innuendo. In these circumstances one's amusement is still directed towards an object, it is simply that the object

[1] As outlined in Chapter 1, I cannot make reference to funniness or humour when specifying the narrow sense of amusement, since this would not yield an informative and non-circular sequence of definitions. However, making reference to humour in order to define the narrow sense of amusement is exactly what many theorists do (Scruton 1982; Martin 1987; Carroll 2014).

[2] I use the word 'subject' essentially to mean 'normal human being' and I use the word 'object' in the widest possible sense because amusement can be directed towards anything, including text, images, audio, video, events, memories and chimeras.

is imaginary. Hence, all amusement requires an amused subject *S* and an object *O* towards which *S*'s amusement is directed.

My second observation about amusement is that it has both a cognitive component and an affective component.[3] The cognitive component constitutes the *recognition* of something as an object of amusement, whereas the affective component constitutes the *appreciation* of something as an object of amusement.[4] For an illustration of the cognitive component, consider the following:

> 'Hurry up and get to the back of the ship!' Smith said sternly.

Amusement towards this example depends upon one's knowledge of ships. If one does not know that 'stern' is the nautical name for the back of a ship, then one will probably not recognise the example as an object of amusement. Hence, in this example, amusement depends upon knowledge and thereby has a cognitive component. For an illustration of the affective component of amusement, consider the following:

> The Jones family tree must be a cactus because everybody on it is a prick.

Amusement towards this example depends upon one's attitudes about Jones. If one holds positive attitudes about Jones, then one will probably not appreciate this example as an object of amusement. Hence, in this example, amusement depends upon attitudes and thereby has an affective component.

Support for this distinction between the cognitive and affective components of amusement can be found in recent neuroscientific research. Vinod Goel and Raymond Dolan (2001) conducted the first functional Magnetic Resonance Imaging (fMRI) study which scanned amused participants and managed to isolate the cognitive and affective components

[3] Cognition and affect are psychological divisions of the mind such that cognition relates to reasoning, knowledge and understanding, while affect relates to emotions, feelings and attitudes.

[4] This distinction is not a new one. For example, Berys Gaut (1998, 2007) observes that amusement has both an 'intellectual' and 'affective' aspect, and Jerrold Levinson (2016, 84) states that amusement is a 'cognitive and affective response'.

of amusement.[5] Joseph Moran et al. (2004), Angela Bartolo et al. (2006) and Pascal Vrticka et al. (2013) present further fMRI studies that distinguish between the brain activity associated with recognition and that associated with appreciation during amusement responses. Moreover, Darren Campbell et al. (2015) even attempt to pinpoint the different brain regions involved in the cognitive and affective components of amusement. In general, fMRI studies show that amusement has a cognitive component that is associated with activity in frontal and temporal regions of the brain, and an affective component that is associated with activity in reward and emotional regions.

Opposition to this distinction between the cognitive and affective components of amusement can be found in claims like the following from Henri Bergson (2008, 4):

> Here I would point out … the absence of feeling which usually accompanies laughter … To produce the whole of its effect, then, the comic demands something like a momentary anesthesia of the heart. Its appeal is to intelligence, pure and simple.[6]

According to Bergson, amusement is a purely cognitive mental state and so does not have an affective component. However, this claim simply seems wrong. There are many examples of amusement where emotions, feelings or attitudes have an effect. The above insult targeting Jones is one example and the following is another:

> What does the sign on an out-of-business brothel say? We're closed, beat it.

Amusement towards this example involves a cognitive component centred on the phrase 'beat it', but that is not all that is involved. There is also sexual content which has an effect on one's amusement in accordance with one's attitudes about sex. If one is particularly prudish about sexual

[5] fMRI is a technique used to indirectly image brain activity by detecting changes associated with blood flow.

[6] In this quote, Bergson makes reference to 'laughter' and 'comic' which are two words that I am yet to introduce. However, assuming that Bergson takes 'laughter' and 'comic' to be intimately associated with amusement, it seems fair to understand him as claiming that amusement is a purely cognitive mental state.

content, then one may not be amused despite still recognising the example as an object of amusement. Hence, attitudes *can* have an effect on amusement and Bergson is wrong to claim that amusement is a purely cognitive mental state which does not have an affective component.

I have started my definition of amusement by observing, first, that amusement requires both a subject *S* and an object *O* and, second, that amusement has both a cognitive and an affective component. In accordance with my first observation, my definition of amusement will take the following form:

> **Theory of Amusement (ToA):** Subject *S* is amused by object *O* if and only if …[7]

Of course, ToA is incomplete and the '…' needs to be replaced by conditions for amusement in order for ToA to constitute a proper definition. In accordance with my second observation about amusement, some of the conditions that replace the '…' will be cognitive conditions about *S* and others will be affective conditions about *S*.

Finding the correct cognitive and affective conditions to replace the '…' is a task which concerns the majority of this book. However, in this chapter, I choose to simply state ToA in an incomplete form and then define funniness and humour in terms of amusement. That way, I can give my definitions of funniness and humour in this chapter and then complete ToA in later chapters. Of course, as my definitions of funniness and humour are given in terms of amusement, completing ToA will also serve to complete my definitions of funniness and humour too.

It is often noted that amusement is a mental state which has a special connection to a particular bodily state—laughter.[8] However, despite this connection, I will purposefully be neglecting laughter in this book. This is because it is possible to have both amusement without laughter and

[7] The phrase 'if and only if' is used between two statements to indicate that if one statement is true, then the other is also true, and if one statement is false, then the other is also false. The phrase can thus be used when giving definitions. For example, the definition of the word 'bachelor' can be given as follows: 'Subject *S* is a bachelor if and only if *S* is a man and *S* is unmarried'. A definition of this form is my aim when completing ToA in later chapters.

[8] Ludwig Wittgenstein (1998, 88) nicely illustrates the curious connection between amusement and laughter in the following observation:

laughter without amusement. Amusement without laughter occurs when one's degree of amusement is too low to raise a laugh, or when one suppresses laughter for whatever reason. Laugher without amusement occurs through tickling, nitrous oxide, intoxication, nervousness and epileptic fits.[9] In fact, as laughter serves many social functions beyond expressing amusement, it is even possible that *most* laughter occurs without amusement. Robert Provine (2001, 40) recorded over one thousand cases of laughter in conversation and found that only between ten and twenty percent was judged to be even remotely caused by amusement. Thus, the connection between laughter and amusement is not a reliable one, which is why I purposefully neglect laughter in this book.[10]

In this section, I have addressed Question 1 by examining amusement and yielded ToA. In the next section, I address Question 2 by examining funniness.

2 What is Funniness?

An important observation about funniness is that there is a critical gap between what is funny and what elicits amusement. As David Monro (1963, 17–18) points out, saying that something amuses people is not the same as saying that it is funny. Even if one said that something amuses *most* people, then one could still add 'but it is not funny *really*' without contradicting oneself. Similarly, one can also say that something does not amuse most people and still add 'but it is funny *really*'.

For example, consider the definitions of 'buffoon' and 'boor' that Aristotle (2009, 77–78) gives in the following:

> Two people who are laughing together, at a joke perhaps. One of them has said certain somewhat unusual words and now they both break out into a sort of bleating. That might appear very bizarre to someone arriving among us from a quite different background.

[9] John McDowell (1987, 158) agrees that 'an inclination to laugh would not necessarily yield an apparent instance of the comic, since laughter can signal, for instance, embarrassment just as well as amusement'.

[10] See Michael Clark (1987, 240–241) and Noël Carroll (2014, 43–48) for arguments that amusement can be detached from laughter, and see John Morreall (2009, 58–64) and Joshua Shaw (2010, 118–123) for arguments to the contrary.

> Those who carry humour to excess are thought to be vulgar buffoons, striving after humour at all costs, and aiming rather at raising a laugh than at saying what is becoming and at avoiding pain to the object of their fun; while those who can neither make a joke themselves nor put up with those who do are thought to be boorish and unpolished.[11]

According to Aristotle, a buffoon is someone who is amused by too much and a boor is someone who is amused by too little. So, if a group of buffoons is amused by something, then that thing may actually be not funny even though the majority response is one of amusement. Conversely, if a group of boors is not amused by something, then that thing may actually be funny despite the majority response.

It is even possible to criticise as not funny something which not only amuses most people but also amuses oneself. One can be amused by things that, on reflection, one should not be amused by, that is, things that are not funny. Examples often include things which one used to be amused by as a child or teenager. Conversely, one can also fail to be amused by things that, on reflection, one should be amused by, that is, things that are funny. Thus, one's amusement is not always a reliable guide to what is funny and there is a difference between *finding* something funny and something *being* funny.

The existence of this critical gap between what is funny and what elicits amusement indicates that funniness is not a descriptive concept but rather a normative concept.[12] To claim that something is funny is not to report a response of amusement towards it, but to endorse a response of amusement towards it. Funniness does not merely elicit amusement, rather it merits amusement. Hence, I propose the following definition of funniness:

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[11] In this quote, Aristotle makes reference to 'humour' and 'jokes' which are two words that I am yet to introduce. However, assuming that Aristotle takes 'humour' and 'jokes' to be intimately associated with amusement, it seems fair to understand him as claiming that buffoons are amused by too much and boors by too little.

[12] Descriptive concepts describe what is or what is not, whereas normative concepts prescribe what ought to be or what ought not to be. For example, 'Jones is happy' is a descriptive statement, whereas 'Jones ought to be happy' is a normative statement.

> **Theory of Funniness (ToF):** Object *O* is funny if and only if *O* merits amusement.

ToF accommodates the critical gap between what is funny and what elicits amusement since it can account for something that elicits amusement without meriting amusement and vice versa. For example, consider the following:

> What should you do when you have a gun with two bullets and are trapped in a room with an angry bear, a hungry lion, and Smith? Shoot Smith twice.

Even in a situation where most people were amused by this example, it would still be possible for an insult targeting Smith to not merit amusement and so, according to ToF, the insult would not be funny.[13]

Normative definitions of funniness like ToF are appealing because they not only capture the intuition that funniness must be defined in terms of amusement, but also capture the intuition that one ought to be amused by certain things because they are funny (Patridge and Jordan 2018, 2). Other normative definitions of funniness appear in the literature but, since theorists do not distinguish between amusement and funniness, they are forced to give a normative definition of both concepts (Wright 1992; Gaut 2007; D'Arms and Jacobson 2010). This creates problems as amusement is actually a descriptive concept. For example, consider the following from Berys Gaut (2007, 246):

> It is important to recall that the notion of the amusing or funny is a normative one: what is amusing is not what causes amusement, but what merits amusement. So one can be amused by what is not amusing and not amused by what is amusing.

[13] Note that the reason that amusement is unmerited would have to be amusement-based. For example, if Smith was one's boss, then one would have a prudential reason to not be amused by the insult. But in order for the insult to be unfunny rather than merely imprudent, there must be an amusement-based reason of why amusement towards the insult is unmerited (Jacobson 1997).

By not distinguishing between amusement and funniness then giving a normative definition of both concepts, Gaut fails to accommodate the descriptive usage of 'amusing' in cases when something is not funny but still amuses most people. Conversely, consider the following from Noël Carroll (2014, 247):

> Does it really make sense to say that something is not really funny if virtually everyone is amused by it? Perhaps being … amused is just a descriptive matter and not a normative one.

By not distinguishing between amusement and funniness then giving a descriptive definition of both concepts, Carroll fails to accommodate the normative usage of 'funny' in cases when something does not amuse most people but is still funny.[14] Thus, by conflating amusement and funniness, Gaut's and Carroll's definitions suffer parallel but opposite problems, both of which ToA and ToF manage to avoid.

Opposition to normative definitions of funniness like ToF can be found in claims like the following from Aaron Smuts (2010, 341):

> The principal problem for [the] claim that humor is normative is that one can consistently think that if you think that a starving child on the side of the street looks like an old man, and you find [this] funny, then it is funny … This might indicate a moral omission for which one may be responsible; however, it does not mean that 'humorous' is a normative concept.[15]

According to Smuts, normative definitions of funniness like ToF are flawed because there are examples in which funniness is determined by what elicits amusement rather than what merits amusement. However, Smuts is only able to articulate his criticism because he fails to distinguish between *finding* something funny and something *being* funny. In his

[14] Similarly, Jerrold Levinson's (2016, 84) definition of funniness cannot accommodate the critical gap between what is funny and what elicits amusement. According to Levinson's definition, if something amuses its target audience, then it is funny. But this definition renders redundant all critical discourse on funniness, even in cases where the target audience is buffoonish.

[15] In this quote, Smuts makes reference to 'humour' which is a word that I am yet to introduce. However, assuming that Smuts takes 'humour' to be intimately associated with funniness, it seems fair to understand him as criticising normative definitions of funniness like ToF.

central example he says 'if … you find [this] funny, then it is funny'. But, as outlined above, it is possible to criticise as not funny something which even amuses oneself. Hence, Smut's criticism is unsuccessful because he fails to account for the critical gap between what is funny and what elicits amusement from oneself.

In this section, I have addressed Question 2 by examining funniness and yielded ToF. In the next section, I address Question 3 by examining humour.

3 What is Humour?

A common proposal is that humour is anything which amuses normal subjects in normal conditions (Cohen 2002; Smuts 2007; Carroll 2014).[16] For example, consider the following:

> Never date a tennis player. Love means nothing to them.

According to the proposal, this example would constitute humour if it amuses normal subjects in normal conditions. This may seem plausible, but the proposal actually has two fatal problems.

First, it is false that all humour amuses normal subjects in normal conditions. Consider the following example:

> What is a Karate expert's favourite drink? Kara-tea.

This example is undoubtedly humour, but I doubt that it elicited much amusement from you despite you being a normal subject in normal conditions. Even if this example did elicit amusement, one can still recall other examples of unsuccessful humour in which one recognised humour without experiencing amusement.[17] But it is not as if unsuccessful

[16] The specification of 'normal subjects in normal conditions' is stipulated in order to avoid humour being determined by abnormal subjects or abnormal conditions, such as subjects with a pathological disposition to amusement or conditions in which an amusement-inducing gas permeates the air (Johnston 1989; Wright 1992).

[17] Throughout this book, I offer examples which may not elicit the intended response from the reader. I may offer examples of non-amusement which amuse the reader or examples of amusement

humour ceases to be humour simply because it is unsuccessful. Unsuccessful humour may not elicit amusement, but it is still humour nonetheless. Hence, it is false that all humour amuses normal subjects in normal conditions.

Second, it is false that anything which amuses normal subjects in normal conditions is humour. For example, consider someone who is amused by the antics of their pet cat, or someone who is amused by a phallic rock formation. In each of these examples, the subject certainly seems to qualify as a normal subject in normal conditions. After all, these brief descriptions do not contain any abnormal specifications. Yet, in each of these cases, one would not want to label the object of amusement 'humour'. Neither the antics of a cat nor a formation of rocks would be labelled 'humour' in the usual sense of the word. Hence, it is false that anything which amuses normal subjects in normal conditions is humour.

These two problems are fatal for the proposal that humour is anything which amuses normal subjects in normal conditions. The first problem shows that humour is an object of amusement only when it successfully elicits amusement, whereas the second problem shows that objects of amusement are humour only when they are intended to amuse. Taken together, these show that humour is not dependent on the elicitation of amusement, but rather that humour is dependent on the intention to elicit amusement. Hence, I propose the following definition of humour:

> **Theory of Humour (ToH):** Object *O* is humour if and only if *O* is intended to elicit amusement.

According to ToH, not all humour is an object of amusement because the intention to elicit amusement can be unsuccessful. So ToH can explain why the 'Kara-tea' example is still humour even though it is not amusing. Conversely, according to ToH, not all objects of amusement are humour because an object of amusement must be intended to be amusing in order to be humour. So ToH can also explain why the antics of a cat can be an object of amusement without being humour.

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which do not. In these cases, I trust that my example at least enables the reader to recall their own example which elicits the intended response.

ToH can be used to clarify specific words associated with humour, such as 'joke', 'comic', and 'gag'. All of these words each refer to something which is intended to elicit amusement and so is, according to ToH, a type of humour. For example, jokes are the type of humour which consist of a narrative (the set-up) that culminates in the final sentence (the punch-line). Likewise, generic words such as 'farce', 'satire', and 'slapstick' each refer to something which is intended to elicit amusement and so is, according to ToH, a type of humour. For example, slapstick is the type of humour which consists of exaggerated physical activity usually involving clumsy actions and embarrassing events.

Support for ToH can be found in the etymology of the word 'humour': In Ancient Greece, Hippocrates thought that health was determined by the balance of four bodily fluids, or 'humours'. The idea that unhealthy people suffered from an imbalance of these humours meant that in the sixteenth century, eccentrics who deviated from social norms were referred to as 'humourists'. Since these eccentrics were commonly objects of amusement, the word 'humourist' came to mean someone who causes amusement. Later, people started imitating eccentrics with the intention of causing amusement so, in the nineteenth century, 'humourist' took on the meaning of someone who creates a product to amuse others and this product came to be known as 'humour' in the sense used today (Martin and Ford 2018, 8–9). Hence, by characterising humour as the product of those intending to cause amusement, ToH aligns nicely with this modern sense of the word 'humour'.

Opponents to ToH may claim that it conflicts with usage of the word 'humour' when speakers refer to 'unintentional humour'. For example, suppose that someone accidently slips on a banana skin in the street, much to the amusement of passing pedestrians. Since the calamity was unintentional and it elicited amusement, one may be tempted to label this 'unintentional humour'. However, according to ToH, the calamity cannot be a case of humour because it was not intended to be amusing. In fact, ToH renders the phrase 'unintentional humour' a contradiction in terms since, according to ToH, something cannot be humour if it is unintentional. This may seem a problem for ToH because the phrase 'unintentional humour' seems to be used without any contradiction.

However, rather than a problem, this can be seen as an inevitable consequence of making the definition of 'humour' more rigorous, resulting in points where everyday speech comes apart from the rigorous definition. I would argue that the phrase 'unintentional humour' features a deviant use of the word 'humour' brought about by the widespread failure to distinguish between humour, amusement and funniness. To bring such deviant usage into line, examples like slipping on a banana skin should be referred to as 'unintentional objects of amusement'. If one slips on a banana skin, then one does not unintentionally become an instance of humour, rather one unintentionally becomes an object of amusement. Therefore, that ToH conflicts with some usage of the word 'humour' is not a problem, but rather an inevitable consequence of making the definition of 'humour' more rigorous.[18]

Further opposition to ToH can be found in examples of humour without an intention to amuse, such as the following from Steven Gimbel (2017, 2–3):

> We tell jokes to cut someone else down to size. We tell jokes to humanize ourselves in the eyes of others. We tell jokes to break the ice with people we don't know. We tell jokes to cut the tension when there is conflict. We tell jokes to create conflict and tension, expressing our disapproval of someone else's act or viewpoint … We engage in humorous activities for lots of reasons; sometimes the goal is to generate laughter, sometimes it is not.

As Gimbel points out, there seem to be plentiful examples of jokes that are told without an intention to elicit amusement. But this is a potential problem for ToH because it states that all humour is intended to elicit amusement.

The solution to this problem is to recall that amusement has both a cognitive component and an affective component, which would allow ToH to be amended to the following:

> Object *O* is humour if and only if *O* is intended to elicit the cognitive component of amusement.

[18] Steven Gimbel (2017, 37–38) agrees that 'we cannot be unintentionally humorous' because 'we are humorous only when we intend to be'.

This amendment solves the problem because, although Gimbel's examples may not involve the intention for something to be *appreciated* as an object of amusement, they do all involve the intention for something to be *recognised* as an object of amusement. If the jokes in Gimbel's examples were not recognised as anything more than normal utterances, then they would not fulfil their intended function. Hence, this amendment of ToH would solve the problem.

However, I will not be making this amendment to ToH. Gimbel's examples have shown that, technically, the original question 'What is humour?' could be answered by defining only the cognitive component of amusement while neglecting the affective component. But I argue that it is more informative and more interesting to venture a complete definition of amusement. So, for completeness, I choose to not amend ToH and to keep it as first stated. Therefore, my answer to the question 'What is humour' could be understood as focussed on typical humour cases which serve the primary function of eliciting amusement rather than atypical humour cases which serve some secondary function, as in Gimbel's examples.

In this section, I have addressed Question 3 by examining humour and yielded ToH. In the next section, I summarise the key claims of this chapter.

4 Chapter Summary

In this chapter, I have addressed Question 1, Question 2 and Question 3 from Chapter 1 by examining amusement, funniness and humour. In Section 1, I addressed Question 1 by examining amusement and yielded the following (incomplete) definition:

Theory of Amusement (ToA): Subject *S* is amused by object *O* if and only if …

In Section 2, I addressed Question 2 by examining funniness and yielded the following definition:

Theory of Funniness (ToF): Object *O* is funny if and only if *O* merits amusement.

In Section 3, I addressed Question 3 by examining humour and yielded the following definition:

Theory of Humour (ToH): Object *O* is humour if and only if *O* is intended to elicit amusement.

In Chapters 3 to 6, I focus on completing ToA in order to make ToF and ToH more informative. In Chapter 3, I review early theories of amusement, in Chapter 4, I define the cognitive component of amusement, in Chapter 5, I define the affective component of amusement and, in Chapter 6, I complete ToA by combining my definitions of the cognitive and affective components of amusement.

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3

Early Theories of Amusement

Abstract In this chapter, I uncritically review early theories of amusement in order to extract key claims for critical assessment in Chapters 4 and 5. In Section 1, I defend the essentialist approach to Question 1 from Chapter 1, in Section 2, I review early superiority theories, in Section 3, I review early incongruity theories, in Section 4, I review early release theories and, in Section 5, I review early play theories. Finally, in Section 6, I summarise the key claims of this chapter.

Keywords Amusement • Essentialist • Superiority • Incongruity • Release • Play

1 The Essentialist Approach

Traditionally, theories have taken an 'essentialist' approach to Question 1 from Chapter 1 by searching for an essence that is necessarily present in all cases of amusement and the presence of which is sufficient for being a case of amusement. The essentialist approach aims to define this essence by providing a list of conditions which are individually necessary and col-

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lectively sufficient for amusement. There are then two ways in which a theory taking the essentialist approach can fail: First, when there are counter-examples of amusement which do not satisfy all of the conditions listed by the theory. Second, when there are counter-examples of non-amusement that do satisfy all of the conditions listed by the theory. However, if a theory manages to provide a list of conditions that avoids counter-examples of both types, then it is successful in taking the essentialist approach.

A theory of amusement that is successful in taking the essentialist approach would provide a perfectly definitive answer to Question 1. However, whether success is even possible depends on there actually being an essence of amusement to search for in the first place—something which several theorists deny. For example, John Morreall (2009, 64) states 'there simply is … no single concept of amusement for which we can list necessary and sufficient conditions', and Mike Martin (1987, 177) and Ted Cohen (2002, 429) express similar sentiments. These denials of the essentialist approach are often based on the claim that what unites all cases of amusement under the single word 'amusement' is that, rather than sharing a common essence, they share a family resemblance.

This claim makes reference to Ludwig Wittgenstein's (2009, 64) famous analogy between the resemblance shared by the referents of a word and the resemblance shared by the members of a family:

> Consider for example the proceedings that we call 'games' … Look for example at board-games, with their multifarious relationships. Now pass to card-games; here you find many correspondences with the first group, but many common features drop out, and others appear. When we pass next to ball-games, much that is common is retained, but much is lost … And the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing … I can think of no better expression to characterize these similarities than 'family resemblances'; for the various resemblances between members of a family: build, features, colour of eyes … overlap and criss-cross in the same way.

By looking at the diverse referents of the word 'game', Wittgenstein tries to show that there is no common essence shared by all of them. However,

one is still able to refer to all games by a single word because there exists a family resemblance through which each referent shares some common features with some other referents. Therefore, the referents of a word need not have a common essence which unites them all.

The word 'amusement' may seem a case of family resemblance since it too, like the word 'game', has many diverse referents. Michael Clark (1970, 20) articulates this point as follows:

> Humour, it will be said, is a family-resemblance concept: no one could hope to compile any short list of essential properties abstracted from all the many varieties of humour—human misfortune and clumsiness, obscenity, grotesqueness, veiled insult, nonsense, wordplay and puns, human misdemeanours and so on, as manifested in forms as varied as parody, satire, drama, clowning, music, farce and cartoons.[1]

However, if amusement is a family-resemblance concept, then there is no essence shared by all cases of amusement and it is impossible for a theory taking the essentialist approach to successfully avoid all counter-examples. So, in defence of taking the essentialist approach, I give two responses to the claim that amusement is a family-resemblance concept.

First, the mental state of amusement seems a uniquely distinctive one. There seems to be some kernel about the experience of amusement that remains identical despite the diverse objects that elicit it. The cognitive component of amusement may be similar to the spark of intuition when one solves a puzzle and the affective component of amusement may be similar to the sense of levity when one relieves a burden. But the conjunction of the cognitive and affective components of amusement seems unique. Thus, since amusement seems a uniquely distinctive mental state, it seems plausible that amusement does have an essence.

Second, one does not *know* that amusement does *not* have an essence and so one cannot *know* that all essentialist approaches are inevitably doomed to fail. Earlier essentialist approaches may have indeed failed, but this does not mean that every such approach must fail. Importantly,

[1] In this quote, Clark uses the word 'humour' as opposed to 'amusement', but it seems fair to understand him as using humour as a proxy for amusement since he does not distinguish between humour, amusement and funniness.

this also does not mean that failed essentialist approaches cannot serve to elucidate the concept of amusement. In fact, some failed essentialist approaches elucidate the concept of amusement precisely because they do fail. Failed approaches can act as a fruitful heuristic because it can be illuminating to discover to what extent they are successful. Therefore, regardless of claims that amusement is a family-resemblance concept, the essentialist approach remains a viable way to proceed.

In this section, I have defended the essentialist approach to Question 1. In the next section, I review early superiority theories.

2 Early Superiority Theories

Superiority theories emphasise feelings of superiority as a condition for amusement or laughter.[2] The roots of superiority theories can be traced back at least as far as Ancient Greece.[3] Plato (1987, 11) stated that 'taken generally, the ridiculous is a certain kind of evil'. Specifically, this evil is self-ignorance and so one laughs at people who are self-ignorant about their wealth, attractiveness or virtuousness. Plato added that self-ignorance is a cause for feelings of superiority and laughter only if the self-ignorant person is also relatively powerless. Self-ignorant people who are strong and powerful are not deserving of laughter but of hate, since their power makes their self-ignorance harmful to others beyond themselves.

[2] Most early theories of amusement are given in terms of laughter as opposed to amusement. Often this is because early theorists assume that all laughter is caused by and expresses amusement. However, as outlined in Chapter 1, this assumption is mistaken. So, although I present theories in this chapter as their authors did, when it comes to extracting the key claims, I rephrase them in terms of amusement as opposed to laughter. The same goes for theories presented in terms humour or in terms of synonyms for humour such as 'the comic', 'the ludicrous' or 'the ridiculous'.

[3] This review of early theories of amusement is roughly chronological with superiority theories being the oldest. However, even superiority theories are pre-dated by the oldest recorded joke from Ancient Sumer in 1900 BC: 'Something which has never occurred since time immemorial; a young woman did not fart in her husband's lap.' Incidentally, the oldest recorded joke in English is from 1000 AD: 'What hangs at a man's thigh and wants to poke the hole that it's often poked before? A key.' There is something reassuring about the oldest joke in the world being a fart joke and oldest joke in English being a penis joke. It seems that some things never change.

Similar to Plato, Aristotle (2009, 78) thought that all laughter is malicious and 'a jest is a sort of abuse'. He saw comedic characters as possessing a certain type of ugliness: 'the ridiculous … is a species of the ugly; it may be defined as a mistake or unseemliness that is not painful or destructive' (Aristotle 1987, 14). One laughs at this ugliness in comedic characters because of the joy that comes from feeling superior. However, Aristotle also observed that if the ugliness is not relatively minor, then it may arouse other strong emotions like anger or pity, in which case one would not be moved to laugh despite still feeling superior. Agreeing with Aristotle, Cicero (1987, 17) said that 'the seat and province of the laughable, so to speak, lies in a kind of offensiveness and deformity, for the sayings that are laughed at the most are those which refer to something offensive in an inoffensive manner'.

Thomas Hobbes (2008) later reinforced superiority theories in his political account of human nature. He claimed that the 'general inclination of all mankind [is a] perpetual and restless desire for Power after Power, that ceaseth only in Death' (Hobbes 2008, 66). One's naturally competitive disposition means that one relishes success as well as the failure of others. If the realisation of a success comes over one quickly, then the sudden perception of one's superiority is enjoyed as laughter:

> The passion of laughter is nothing else but sudden glory arising from some sudden conception of some eminency in ourselves, by comparison with the infirmity of others, or with our own formerly … Laughter without offence, must be at absurdities and infirmities abstracted from persons. (Hobbes 1999, 54–55)

According to Hobbes, laughter results from feelings of superiority derived from the infirmity of another person compared to oneself, or from one's past self compared to one's present self. Taking Hobbes' example of folly, if you laugh at a folly of mine, then my infirmity causes you to have feelings of superiority over me and these feelings of superiority cause your laughter. Likewise, if you laugh at the memory of one of your own follies,

then your past infirmity causes you to have feelings of superiority over your past self and these feelings of superiority cause your laughter.

René Descartes (1989, 117) gave a similar explanation of all laughter as an expression of scorn or ridicule:

> Derision or scorn is a sort of joy mingled with hatred, which proceeds from our perceiving some small evil in a person whom we consider to be deserving of it … But this evil must be small, for if it is great we cannot believe that he who has it is deserving of it, unless when we are of a very evil nature or bear much hatred towards him.

So, similar to Hobbes, Descartes claimed that laughter is directed towards the infirmities of others but, similar to Aristotle, he also claimed that these infirmities must be relatively minor for one to take pleasure in them. Descartes did admit that laughter can also be caused by joy but stated that joy alone is not sufficient and must still be mixed with hatred to produce laughter.

The idea that laughter is caused by superiority found further support throughout the nineteenth century. Georg Wilhelm Friedrich Hegel (1920, 302) defined laughter as 'an expression of self-satisfied shrewdness'. Likewise, Alexander Bain said that 'in everything where a man can achieve a stroke of superiority, in surpassing or discomfiting a rival, is the disposition to laughter apparent', also adding that laughter only occurs 'in circumstances that excite no other strong emotion' (Bain 1865, 120, 248). Charles Baudelaire (2011) argued that the existence of laughter is a direct consequence of grasping the notion of superiority because this notion gives rise to both the comic and the grotesque. The malice inherent in laughter at the comic, said Baudelaire, is the clearest evidence of an element of the satanic in man.

Henri Bergson's (2008) theory of laughter to some degree defies classification since it has elements of both a superiority theory and an incongruity theory. It has elements of a superiority theory because Bergson (2008, 88) claims that, by expressing superiority and conferring humiliation, laughter serves as a social corrective that functions to correct deviant behaviour:

> Laughter is, above all, a corrective. Being intended to humiliate, it must make a painful impression on the person against whom it is directed. By laughter, society avenges itself for the liberties taken with it.

So, Bergson claims that laughter expresses superiority and explains that it is due to this expression of superiority that laughter is able to function as a social corrective.

A strong version of early superiority theories can be characterised with the following key claim:

> **Early Superiority Theory:** Subject *S* is amused by object *O* if and only if *S* experiences sudden feelings of superiority because of *O*.

This claim is a strong version of early superiority theories as it defines amusement as *equivalent* to feelings of superiority—a stronger claim than is given by most early superiority theorists. For example, Aristotle, Descartes and Bain each suggest that superiority alone is not sufficient for amusement and specify that the inferiorities at which one laughs must be relatively minor or must not rouse any strong emotion.[4] However, I need not be too concerned about which early superiority theorists would or would not accept Early Superiority Theory because I primarily present it as a useful starting point from which the critical assessment of superiority theories can begin in Chapter 5. The critical assessment begins in Chapter 5 because Chapter 5 focusses on the affective component of amusement and Early Superiority Theory proposes an affective condition for amusement based on feelings of superiority.

In this section, I have reviewed early superiority theories and yielded Early Superiority Theory. In the next section, I review early incongruity theories.

3 Early Incongruity Theories

Incongruity theories emphasise the perception of incongruity as a condition for amusement or laughter. Although Aristotle is best classified as a superiority theorist, the roots of incongruity theories can be traced back

[4] Moreover, Sheila Lintott (2016) argues that Plato, Aristotle and Hobbes do not even take an essentialist approach in their superiority theories, as is commonly attributed to them.

to a brief remark in which he says that a speaker can make an audience laugh by setting up an expectation and then presenting something 'that gives a twist' (Aristotle 1991, 175). The example he offers is 'Onward he came, and his feet were shod with his—chilblains [foot sores]' and explains that 'one imagined the word would be "sandals"' (Aristotle 1991, 175). In these brief remarks, Aristotle gives the first hints towards an incongruity theory of amusement.

Other theorists have also suggested that laughter is caused by an incongruity between expectations and reality. Agreeing with Aristotle, Cicero (1987, 18) observed that 'the most common kind of joke is that in which we expect one thing and another is said; here our own disappointed expectation makes us laugh'. Later, Blaise Pascal similarly conjectured that 'nothing produces laughter more than a surprising disproportion between that which one expects and that which one sees' (Morreall 1983, 16). Most notably, Immanuel Kant (2009, 161) said that 'laughter is an affection arising from the sudden transformation of a strained expectation into nothing'. He illustrated his idea with the example of a 'merchant returning from India to Europe with all his wealth and merchandise who was forced to throw it overboard in a heavy storm and who grieved thereat so much that his wig turned grey the same night' (Kant 2009, 162).

James Beattie was the first to articulate a proper incongruity theory in his claim that 'laughter arises from the view of two or more inconsistent, unsuitable, or incongruous parts or circumstances considered as united in one complex object or assemblage, or as acquiring a sort of mutual relation from the peculiar manner in which the mind takes notice of them' (Ritchie 2004, 46). Francis Hutcheson (1987, 32) also gave a similar account around the same time:

> The cause of laughter is the bringing together of images which have contrary additional ideas, as well as some resemblance in the principal idea: this contrast between ideas of grandeur, dignity, sanctity, perfection and ideas of meanness, baseness, profanity, seems to be the very spirit of burlesque.

Likewise, William Hazlitt (1845, 4) proposed that 'the essence of the laughable … is the incongruous, the disconnecting one idea from another, or the jostling of one feeling against another'.

Søren Kierkegaard (2009, 431) made the seemingly stronger claim that laughter is caused not by mere incongruity, but by contradiction:

> The tragic and the comic are the same, in so far as both are based on contradiction; but the tragic is the suffering contradiction, the comic the painless contradiction.

However, the examples Kierkegaard (2009, 432) gave indicate that he was considering something more akin to incongruity rather than contradiction: 'When a girl applies for a permit to establish herself as a public prostitute, this is comic … to have an application refused for becoming something contemptible is a contradiction.'

Arthur Schopenhauer (2014) proposed that laughter is caused by an incongruity between conceptualisation and experience. According to Schopenhauer (2014, 83), abstract knowledge aims to approximate sensory perception 'as a mosaic approximates a painting'. Objects are given by sensory perception and these objects fall under concepts which are given by abstract knowledge, so abstract concepts act as approximations of sensory objects. Laughter is then caused by perceiving the failure of abstract knowledge to approximate sensory perception:

> In every case, laughter arises from nothing other than the sudden perception of an incongruity between a concept and the real objects that are, in some respect, thought through the concept; in fact laughter itself is simply the expression of this incongruity. (Schopenhauer 2014, 84)

According to Schopenhauer, all laughter is caused by the sudden perception of incongruity between a concept and the objects that fall under it. He gives the example of a king finding a peasant wearing summer clothing during winter. The peasant tells the king that 'If Your Majesty were to wear what I am wearing, you would find it very warm … my entire wardrobe!' Schopenhauer (2018, 100) explains that 'this last concept includes the vast wardrobe of a king but also the single summer tunic of this poor devil, the sight of which on his freezing body appears extremely incongruous with the concept'.

Henri Bergson's (2008) theory of laughter has elements of an incongruity theory because Bergson also claimed that laughter is caused by an incongruity between conceptualisation and experience. According to Bergson, one can view the world through direct perception or represent the world through conceptual thought. Conceptual thought is useful for scientific modelling but direct perception is better for present experience. Bergson (2008, 19) says that misapplying conceptual thought to present experience results in 'something mechanical encrusted upon the living' which he claims is the cause of all laughter. He offers the following as an illustration:

> Now, take the case of a person who attends to the petty occupations of his everyday life with mathematical precision. The objects around him, however, have all been tampered with by a mischievous wag, the result being that when he dips his pen into the inkstand he draws it out all covered with mud, when he fancies he is sitting down on a solid chair he finds himself sprawling on the floor. (Bergson 2008, 7)

Bergson (2008, 7) explains that, in this example, the laughable 'consists of a certain mechanical inelasticity, just where one would expect to find the wide-awake adaptability and the living pliableness of a human being'.

A strong version of early incongruity theories can be characterised with the following key claim:

> **Early Incongruity Theory:** Subject *S* is amused by object *O* if and only if *S* perceives an incongruity because of *O*.

As with Early Superiority Theory, I primarily present Early Incongruity Theory as a useful starting point from which the critical assessment of incongruity theories can begin in Chapter 4. The critical assessment begins in Chapter 4 because Chapter 4 focusses on the cognitive component of amusement and Early Incongruity Theory proposes a cognitive condition for amusement based on the perception of incongruity.

In this section, I have reviewed early incongruity theories and yielded Early Incongruity Theory. In the next section, I review early release theories.

4 Early Release Theories

Release theories emphasise the release of mental energy as a condition for amusement or laughter. The roots of release theories can be traced back to an essay by the Earl of Shaftesbury (2008) on the release of constrained animal spirits. According to Shaftesbury (2008, 31), the 'natural free spirits of ingenious men, if imprisoned and controlled, will find out other ways of motion to relieve themselves in their constraint and whether it be in burlesque, mimicry or buffoonery, they will be glad at any rate to vent themselves'. Shaftesbury claimed that animal spirits, while passing through the nerves in our bodies, can become constrained and one of the ways to release the constrained spirits is through laughter.

Herbert Spencer (1987) based his release theory on a hydraulic model of the nervous system, in which nervous excitation flows around the nerves much as steam flows around the pipes of a steam boiler. He explained that emotions physically manifest themselves as nervous excitation that becomes increasingly pressurised as the emotion increases. This pressurised excitation 'always tends to beget muscular motion, and when it rises to a certain intensity, always does beget it' (Spencer 1987, 100). So, muscular movement serves to release pressurised nervous excitation much as a safety valve on a steam boiler serves to release pressurised steam. According to Spencer (1987, 107–108), laughter is one form of muscular movement which releases nervous excitation, specifically, it is the form that has no purpose beyond the release of nervous excitation itself—it is 'the discharge of arrested feelings into the muscular system … in the absence of other adequate channels'.

Later, John Dewey (1894) briefly proposed a release theory similar to Spencer's. He said that laughter 'marks the ending … of a period of suspense, or expectation', specifically, laughter consists of a 'sudden relaxation of strain, so far as occurring through the medium of the breathing and vocal apparatus' (Dewey 1894, 558–559). Summing up his theory,

Dewey observed that 'the laugh is thus a phenomenon of the same general kind as the sigh of relief' (Dewey 1894, 558–559).

Sigmund Freud (2014) proposed probably the most famous and elaborate release theory. He based the theory on his account of the psyche as composed of three parts: the id, the ego and the super-ego. The id represents unconscious instinctive impulses, the super-ego represents a largely unconscious critical conscience, and the ego represents the mediator of the id and super-ego. In mediating the opposing demands of the id and the super-ego, the ego expends psychic energy. If there is a positive discrepancy between the mobilised psychic energy and the required psychic energy, then this excess psychic energy is released through a variety of different ways, one of which is laughter.

Freud specifies three different causes of laughter: wit, comedy and humour.[5] He explains that, for each, the pleasure of laughter arises differently:

> The pleasure in [wit] has seemed … to arise from an economy in expenditure upon inhibition, the pleasure in the comic from an economy in expenditure upon ideation … and the pleasure of humor from an economy of expenditure upon feeling. (Freud 2014, 351)

So, according to Freud, each cause of laughter involves a different mechanism by which there arises a positive discrepancy between mobilised psychic energy and required psychic energy. For wit the excess is psychic energy used to repress impulses, for the comic it is psychic energy used to process understanding, and for humour it is psychic energy used to experience emotion.

Wit, Freud's first cause of laughter, primarily refers to prepared jokes and verbal quips. In these cases, puzzling 'joke-work' distracts the super-ego from making demands that oppose the demands of the id, so the psychic energy that the ego has mobilised to repress the demands of the id becomes excess. This excess psychic energy is then released through laughter. According to Freud, most jokes contain sexual or aggressive

[5] Freud drew a distinction between wit and humour which was common at the time. Both were causes of laughter, but wit was associated with aggression while humour was associated with humility (Martin and Ford 2018, 10–11). This past distinction is largely captured in the modern distinction between 'laughing at' and 'laughing with'.

content because sexual or aggressive impulses are the most repressed demands of the id. For example, when one laughs at a joke containing sexual content, one releases psychic energy that would have been used to repress the sexual impulses expressed in the joke.

Comedy, Freud's second cause of laughter, refers to non-verbal cases such as slapstick or clowning. In these cases, the ego mobilises more psychic energy than is required to understand something and the excess psychic energy is then released through laughter. Humour, Freud's third cause of laughter, occurs in adverse situations that usually elicit negative emotions like anger or sadness. In these cases, the ego mobilises psychic energy to experience negative emotions, but then the super-ego comforts the ego by reassuring:

> 'Look here! This is all this seemingly dangerous world amounts to. Child's play—the very thing to jest about!' (Freud 1928, 6)

An example that Freud (1928, 1) gives is of a criminal who, whilst being led to their execution on a Monday, remarks 'Well, this is a good beginning to the week'. Here the psychic energy mobilised to experience pity for the criminal becomes excess when one realises that they are indifferent to their execution and so this energy is released through laughter.

A strong version of early release theories can be characterised with the following key claim:

> **Early Release Theory:** Subject *S* is amused by object *O* if and only if *S* releases accumulated mental energy because of *O*.[6]

As with Early Superiority Theory, I primarily present Early Release Theory as a useful starting point from which the critical assessment of release theories can begin in Chapter 5. The critical assessment begins in Chapter 5 because Chapter 5 focusses on the affective component of

[6] Early Release Theory is a claim shared by Shaftesbury, Spencer and Freud even though it is not phrased in their outdated terminology. Shaftesbury wrote of releasing constrained animal spirits, Spencer wrote of releasing pressurised nervous energy and Freud wrote of releasing excess psychic energy. But, in each case, their claim can be rephrased in modern terminology as releasing accumulated mental energy.

amusement and Early Release Theory proposes an affective condition for amusement based on the release of mental energy.

In this section, I have reviewed early release theories and yielded Early Release Theory. In the next section, I review early play theories.

5 Early Play Theories

Play theories emphasise being in a state of play as a condition for amusement or laughter. Although Aristotle is best classified as a superiority theorist, the roots of play theories can be traced back to his connecting of amusement with play. Aristotle considered wit a virtuous character trait because 'life includes relaxation as well as activity, and in relaxation there is leisure and amusement' (Aristotle 2009, 76). It is then important to cultivate the virtue of wit because amusement and laughter often occur during relaxation and 'relaxation and amusement are a necessary element in life' (Aristotle 2009, 78).

Later, Thomas Aquinas (2008, 217–219) also made a connection between amusement and play:

> Those words and deeds in which nothing is sought beyond the soul's pleasure are called playful or humorous, and it is necessary to make use of them at times for solace of soul.

Following Aristotle, Aquinas thought that one needs occasional respite from serious activity and, during these respites, amusement often occurs. This connecting of amusement with play also led Aquinas to remark that 'excessive play goes with senseless mirth' (Aquinas 2008, 223).

Immanuel Kant is best classified as an incongruity theorist, but he also hinted at a connection between amusement and play. Kant (2009, 159–160) compared the pleasure of wit to that of games and music because, for each, the pleasure is derived from a 'changing free play of sensations': in games it is 'the play of fortune', in music it is 'the play of tone' and in wit it is 'the play of thought'. More specifically, Kant said that the pleasure of wit comes from 'the change of representations in the judgement; by it, indeed, no thought that brings an interest with it is

produced, but yet the mind is animated thereby' (Kant 2009, 160). So, according to Kant, one engages in wit even though it is uninformative because, as a form of play, it is worthwhile for its own sake.

Early play theorists have drawn on the evolutionary development of laughter in apes and humans to explain the connection between amusement and play. Charles Darwin (1998, 132) was one of the first to observe that some apes emit panting vocalisations that can be seen as a form of laughter:

> If a young chimpanzee be tickled—and the armpits are particularly sensitive to tickling, as in the case of our children—a more decided chuckling or laughing sound is uttered; though the laughter is sometimes noiseless.

Darwin observed that ape laughter accompanies a relaxed open-mouthed expression and is emitted during playful activities such as tickling or wrestling. From such observations, early play theorists have argued that ape and human laughter share the same evolutionary origin and this explains the connection between amusement and play.

Max Eastman (2009, 15) claimed that 'humor is play … therefore no definition of humor, no theory of wit, no explanation of comic laughter, will ever stand up, which is not based upon the distinction between playful and serious'. His support for this claim included the facts that playful activity often results in amusement, that some humour consists of playful aggression, and that both humour and play are fundamentally non-serious as opposed to serious. Eastman (2009, 45) also drew on the evolutionary development of laughter and argued that 'we come into the world endowed with an instinctive tendency to laugh and have this feeling in response to pains presented playfully'. As well as conjecturing that ape laughter is analogous to human laughter, Eastman (2009, 34) even conjectured analogous behaviour in animals other than apes, stating that 'dogs laugh, but they laugh with their tails'.

George Santayana (1955, 18), similarly connected amusement with play since both are spontaneous activities that occur in the absence of external concerns or threats. He said that in amusement, like play, 'we indulge an illusion which deepens our sense of the essential pleasantness of things … there is nothing in comedy that is not delightful, except, perhaps, the moment when it is over' (Santayana 1955, 150).

A strong version of early play theories can be characterised with the following key claim:

> **Early Play Theory:** Subject *S* is amused by object *O* if and only if *S* is in a state of play.

As with Early Superiority Theory, I primarily present Early Play Theory as a useful starting point from which the critical assessment of play theories can begin in Chapter 5. The critical assessment begins in Chapter 5 because Chapter 5 focusses on the affective component of amusement and Early Play Theory proposes an affective condition for amusement based on being in a play state.

In this section, I have reviewed early play theories and yielded Early Play Theory. In the next section, I summarise the key claims of this chapter.

6 Chapter Summary

In this chapter, I have uncritically reviewed early theories of amusement in order to extract key claims for critical assessment in Chapters 4 and 5. In Section 1, I defended the essentialist approach to Question 1 from Chapter 1. In Section 2, I reviewed early superiority theories and yielded the following:

> **Early Superiority Theory:** Subject *S* is amused by object *O* if and only if *S* experiences sudden feelings of superiority because of *O*.

In Section 3, I reviewed early incongruity theories and yielded the following:

> **Early Incongruity Theory:** Subject *S* is amused by object *O* if and only if *S* perceives an incongruity because of *O*.

In Section 4, I reviewed early release theories and yielded the following:

Early Release Theory: Subject *S* is amused by object *O* if and only if *S* releases accumulated mental energy because of *O*.

In Section 5, I reviewed early play theories and yielded the following:

Early Play Theory: Subject *S* is amused by object *O* if and only if *S* is in a state of play.

In Chapter 4, I define the cognitive component of amusement by critically assessing Early Incongruity Theory and, in Chapter 5, I define the affective component of amusement by critically assessing Early Superiority Theory, Early Release Theory and Early Play Theory. Finally, in Chapter 6, I complete Theory of Amusement (ToA) from Chapter 2 by combining my definitions of the cognitive and affective components of amusement.

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4

The Cognitive Component of Amusement

Abstract In this chapter, I define the cognitive component of amusement by critically assessing incongruity theories. In Section 1, I assess Early Incongruity Theory from Chapter 3, in Section 2, I assess unsuccessful refinements of the concept of incongruity, in Section 3, I propose a bisociation refinement of incongruity, in Section 4, I propose a resolution refinement of incongruity and, in Section 5, I combine my bisociation and resolution refinements to define the cognitive component of amusement. Finally, in Section 6, I summarise the key claims of this chapter.

Keywords Cognitive • Amusement • Incongruity • Bisociation • Resolution

1 Early Incongruity Theory

In this section, I assess Early Incongruity Theory from Chapter 3. In Subsection 1.1, I assess whether incongruity is necessary for amusement and, in Subsection 1.2, I assess whether incongruity is sufficient for amusement.

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1.1 Incongruity Necessity

Early Incongruity Theory from Chapter 3 proposes that the perception of incongruity is both necessary and sufficient for amusement. Counter-examples to the necessity of incongruity are cases of amusement without incongruity, whereas counter-examples to the sufficiency of incongruity are cases of incongruity without amusement. In this subsection, I assess whether incongruity is necessary for amusement.

It seems intuitively acceptable that the perception of incongruity is necessary for amusement because almost any object of amusement can be construed as involving the perception of some incongruity or another. The punch-line of a joke is incongruous compared to the set-up, the prat-falls of a clown are incongruous compared to common conduct and the absurdity of nonsense is incongruous compared to normal discourse. For more specific examples, consider the slapstick gag from Buster Keaton's film *Steamboat Bill Jr.* in which Keaton narrowly misses being squashed by a falling house-front because the window-frame falls around him. Here the incongruity is how Keaton unwittingly stands in just the right spot for this unlikely event to happen. Or consider the insult comedy of Don Rickles, who made a stand-up career out of addressing his audience members with remarks like 'Oh my God, look at you! Anyone else hurt in the accident?' Here the incongruity consists in Rickles' wilful deviation from politeness and common courtesy.

For further examples, consider the first stanza of Lewis Carroll's (2003, 132) nonsense poem 'Jabberwocky' from *Through the Looking-Glass, and What Alice Found There*:

> 'Twas brillig, and the slithy toves
> Did gyre and gimble in the wabe:
> All mimsy were the borogoves,
> And the mome raths outgrabe.

Here an incongruity arises from nonsensical words which seem to have the appearance of sense. As Alice says of the poem, 'somehow it seems to fill my head with ideas—only I don't exactly know what they are!' (Carroll 2003, 134). Or consider the following joke:

> A moron walks into a restaurant and orders a pizza. The waiter asks whether he wants it cut into four slices or eight. 'Four,' says the moron. 'I'm on a diet.' (Carroll 2014, 19)

Here an incongruity occurs between the intended and actual outcome of applying the rule of thumb that fewer slices means fewer calories. From slapstick to insults to nonsense to jokes, it seems almost any object of amusement can be construed as involving the perception of some incongruity or another.

Furthermore, counter-examples do not seem forthcoming because something must be somehow incongruous in order for one to pay attention to it in the way required for amusement. If an object is not incongruous, that is, it is congruous and in harmony with its surroundings, then one would never take notice of it in the right way. Surely something cannot be an object of amusement if it is completely normal and in harmony with its surroundings. Hence, it seems intuitively acceptable that the perception of incongruity is necessary for amusement.

However, despite this intuitive acceptability, theorists still offer potential counter-examples to the necessity of incongruity. Roger Scruton (1982) considers a caricature of Margaret Thatcher that exaggerates certain physical traits in order to highlight certain character traits. He argues that if one is amused because Thatcher herself does indeed possess the character traits that the caricature highlights, then the object of one's amusement is not incongruity but congruity. One is amused by how much the physical traits of the caricature are congruent with the character traits of Thatcher. As Scruton (1982, 202) says:

> The caricature amuses, not because it does not fit Mrs. Thatcher, but because it does fit her, all too well … If one wishes to describe the humour of a caricature in terms of incongruity it must be added that it is an incongruity which illustrates a deeper congruity between an object and itself.

Hence, Scruton argues that the perception of incongruity is not necessary for amusement.

Another potential counter-example to the necessity of incongruity is jokes in which characters behave according to a cultural stereotype. Christie

Davies (1998) reports that foolishness and parsimoniousness appear as stereotypes in jokes across almost all industrial societies. Each society associates another society with foolishness, such as the Irish in English jokes, the Poles in American jokes and the Flemings in Belgian jokes. Similarly, each society associates another society with parsimoniousness, such as the Scots in English jokes, the Jews in American jokes and the Dutch in Belgian jokes. This is a potential counter-example to the necessity of incongruity because the object of amusement is not incongruity but congruity since the behaviour of characters is congruent with a stereotype.

One more potential counter-example to the necessity of incongruity is when the repeated occurrence of a phrase, word or sound elicits amusement (Gimbel 2017, 16–17). For example, consider *The Simpsons* episode where Sideshow Bob accidently steps on a rake which flips up and hits him in the face with a crunch, causing him to murmur a shuddering groan. He steps off the rake but straight onto another rake which also flips up, crunches him in the face and causes him to murmur the exact same shuddering groan. This process repeats eight more times, starting off as amusing, then becoming mildly tiresome, before becoming amusing again. This is a potential counter-example to the necessity of incongruity because the object of amusement is not incongruity but congruity since each occurrence is identical or congruent with the others.

I argue that these three potential counter-examples of caricatures, stereotypes and repetitions are all avoidable because all three focus on an aspect of congruity in cases of amusement where, nonetheless, the object of amusement is still incongruity. For caricatures, the object of amusement is actually the incongruity between the represented physical traits of the caricature and the real physical traits of the caricatured. The congruity between the physical traits of the caricature and the character traits of the caricatured may enhance this amusement, but ultimately what is essential for amusement is an incongruity between represented and real physical traits. Without this incongruity, there is no caricature and so no amusement.[1] Moreover, even if a congruency between physical traits and

[1] As Noël Carroll (2014, 51) points out, 'one doubts that there would be comic amusement without these perceived incongruities, since revealing self-portraits, such as those of Rembrandt, do not evoke comic amusement'.

character traits does enhance amusement, then it will only be because the character traits themselves are incongruous compared to normal character traits. Thus, caricatures are not counter-examples to the necessity of incongruity.

The potential counter-examples of stereotypes and repetitions can be similarly avoided. For stereotypes, the object of amusement is actually the incongruity between the behaviour of the stereotype and what is regarded as normal behaviour. The behaviour of a character in congruence with the stereotype is then needed to create this incongruity, but ultimately what is essential for amusement is an incongruity between stereotypical and normal behaviour. For repetitions, the object of amusement is actually the incongruity between occurrences being repeated and the norm for occurrences to not be repeated. For example, the linguist Salvatore Attardo (1994, 139) explains that alliteration is incongruous because the sound occurrences in normal language are random and so do not have an identifiable pattern. Neither stereotypes nor repetitions are then counter-examples to the necessity of incongruity. Therefore, with no standing counter-examples in opposition and plentiful examples in support, I accept that incongruity is necessary for amusement.

1.2 Incongruity Sufficiency

Alexander Bain (1865, 247–248) was the first to give counter-examples to the sufficiency of incongruity for amusement:

> There are many incongruities that may produce anything but a laugh. A decrepit man under a heavy burden … an instrument out of tune … a wolf in sheep's clothing … a corpse at a feast … are all incongruous, but they cause feelings of pain, anger, sadness, loathing, rather than mirth.

As Bain points out, there are many counter-examples of incongruity without amusement. For example, suppose that a child receives a wonderful present in their stocking each Christmas, except this year they receive a lump of coal. The coal-lump is certainly incongruous compared to the

wonderful presents of previous years, but the perception of this incongruity does not cause amusement. Rather, it causes disappointment.

One approach to these counter-examples is to claim that incongruity constitutes the *cognitive* component of amusement and that counter-examples can then be avoided by starting to add *affective* conditions for amusement. For example, the coal-lump counter-example could be avoided by adding the affective condition that the perceived incongruity causes enjoyment. This is essentially the approach that Michael Clark (1970, 28–29) takes when he theorises that 'amusement is the enjoyment of … what is seen as incongruous, partly at least because it is seen as incongruous'. However, Clark's theory still has counter-examples. The counter-examples given by Mike Martin (1987, 176) include 'the stunning incongruities permeating Picasso's work' and 'the delight at non-humorous incongruities experienced by connoisseurs of dissonant and atonal music'. These are counter-examples because both involve the enjoyment of an incongruity for being incongruous, but neither of them involves amusement.

The reason that counter-examples persist for Clark's theory is because his approach is flawed. The ordinary concept of incongruity is too vague to adequately capture the cognitive component of amusement and so counter-examples will continue to arise, regardless of how many affective conditions that Clark adds. Clearly, the incongruities in Picasso paintings or dissonant music are not the same as the incongruities in verbal jokes or slapstick gags. So Clark cannot avoid Martin's counter-examples merely by adding extra affective conditions. As long as Clark's concept of incongruity remains vague enough to include the incongruities in Picasso paintings or dissonant music as well as the incongruities found in objects of amusement, then he will not be able to distinguish between amusement and the aesthetic enjoyment of incongruities.[2]

A better approach to the counter-examples against incongruity sufficiency is to make the ordinary concept of incongruity less vague in order to more precisely capture the cognitive component of amusement. At

[2] Justin D'Arms and Daniel Jacobson (2006, 194–195) similarly observe that if the concept of incongruity is left too vague, then 'the incongruity theory … is ultimately undone by the need to expand its central notion so as to accommodate more of what people find amusing'.

present, incongruity is necessary but not sufficient for amusement, which means that all amusement involves incongruity but not all incongruity involves amusement. Hence, by refining the concept of incongruity, I aim to come closer to making all incongruity involve amusement.

In this section, I have accepted that incongruity is necessary for amusement but also found that the concept of incongruity needs refining. In the next section, I assess unsuccessful refinements of incongruity.

2 Unsuccessful Refinements

In this section, I assess unsuccessful refinements of incongruity. In Subsection 2.1, I assess the refinement that incongruity consists of expectation violation, in Subsection 2.2, I assess the refinement that incongruity consists of norm violation, in Subsection 2.3, I assess the refinement that incongruity consists of erroneous conceptualisation and, in Subsection 2.4, I assess the refinement that incongruity consists of error detection.

2.1 Expectation Violation

As outlined in Chapter 2, some early incongruity theorists have proposed that incongruity consists of expectation violation (Aristotle 1991; Kant 2009; Hazlitt 1845). This refinement may seem plausible as there are examples of amusement involving violated expectations, such as the following joke:

> Three friends are stranded on a desert island. They find a magic lantern containing a genie, who grants them each one wish. The first wishes he was off the island and back home. The second also wishes he was off the island and back home. The third says 'I'm lonely. I wish my friends were here with me.' (Foxgrover et al. 2009, 113)

By establishing a pattern, this joke creates the expectation that the third friend will wish himself off the island and back home. But this expectation is then violated because not only does he not wish himself home, but he also wishes the other two back onto the island as well.

However, there are counter-examples to the refinement that incongruity consists of expectation violation. Some cases of amusement do not involve any expectation violation, such as in a slapstick film when one anticipates that the distracted policeman will walk into the open manhole (Carroll 2014, 17). In fact, not only is amusement possible without violated expectations, but experiments have even suggested that some jokes are more amusing when their punch-lines are predictable. Douglas Kenny (1955) had participants rate the predictability and amusingness of jokes and found a significant positive correlation between the two ratings. Howard Pollio and Rodney Mers (1974) also conducted an experiment in which one group of participants were presented with the set-up of jokes and had to write down what they predicted the punch-lines to be, while another group of participants provided amusingness ratings to the same jokes and had their smiling and laughter rates measured. Like Kenny's experiment, the results showed a significant positive correlation between predictability ratings and amusingness ratings.

Noël Carroll (2014, 18) defends the refinement that incongruity consists of expectation violation by making a distinction between 'specific' and 'global' expectations. He argues that the set-up of a joke does not generate any specific expectations about the punch-line and so the punch-line does not violate any specific expectations, rather it violates global expectations about how the world is or ought to be. For example, during the set-up of the desert island joke, one does not generate any specific expectation about what the third friend will say, rather one has global expectations about how the narrative will unfold and it is these global expectations which are violated by the punch-line.

The problem with Carroll's defence is that claiming incongruity consists of global expectation violation does not really make the concept of incongruity any more precise. For example, in a stereotype joke, there is no sense in which one expects characters to behave normally and then is surprised when they behave stereotypically. If one has any expectations, it is for the stereotype to be conformed to. So it seems that global expectations are not expectations that one *does* have about what *will* happen. Rather, they are expectations which one *would* have *if* the situation was normal. But then to say that something violates global expectations is merely to say that it is not normal, that is, it is incongruous. Hence, the

reference to 'expectations' seems to become redundant and one might as well return to referring to incongruity.

2.2 Norm Violation

Some modern incongruity theorists propose that incongruity consists of norm violation. For example, Peter McGraw and Caleb Warren (2010, 1142) say 'anything that is threatening to one's sense of how the world 'ought to be' will be humorous', Matthew Kotzen (2015, 396) states 'the concept of humor should be understood as involving a kind of violation of the norms that constitute other normative concepts', and Tom Cochrane (2017, 52) claims 'we can only find something funny if we regard it as norm-violating in a way that doesn't make certain cognitive or pragmatic demands upon us'. This refinement may seem plausible as there are examples of amusement involving violated norms, such as the following dialogue from *The Pink Panther Strikes Again*:

> *Inspector Clouseau*: 'Does your dog bite?'
> *Hotel Clerk*: 'No.'
> *Inspector Clouseau*: 'Nice doggie.'
> [Inspector Clouseau pets the dog which then bites him]
> *Inspector Clouseau*: 'I thought you said your dog did not bite!'
> *Hotel Clerk*: 'That is not my dog.'

Kotzen (2015, 399) rightly explains that this dialogue is both amusing and involves the violation of norms, specifically, some of the conversational norms explicated by Paul Grice (1975).

The refinement that incongruity consists of norm violation may seem appealing for a couple of reasons. First, norms are established relative to a particular individual or society, which could help explain why objects of amusement vary across individuals and societies. Second, norms can be violated to varying degrees, which could help explain why amusement can be experienced to varying degrees. As Robert Sharpe (1987, 209) observes, 'amusement admits of degrees; the response to something funny may range from mild amusement to paroxysms of mirth and we may judge the intensity of somebody's response from his behavioural reactions'.

However, the norm-violation refinement is flawed because, like Carroll's defence of the expectation-violation refinement, it does not serve to make the concept of incongruity any more precise. This is a result of proponents not providing an adequate definition of what a norm actually is.[3] McGraw and Warren (2010, 1142) include norms of 'personal dignity … linguistic norms … social norms … and even moral norms', Kotzen (2015, 396) includes all 'practical, epistemic, and aesthetic norms' and Cochrane (2017, 55) includes 'practical norms … moral norms, social conventions, norms for mental actions … and certain constitutive norms for category membership'. With such a diverse range of examples, it seems that almost anything can be a norm. But if there are no real restrictions on what constitutes a norm, then a norm violation is nothing more than a violation of normality, that is, an incongruity. Hence, the reference to 'norms' seems to become redundant and one might as well return to referring to incongruity.

2.3 Erroneous Conceptualisation

As outlined in Chapter 2, some early incongruity theorists have proposed that incongruity consists of erroneous conceptualisation (Schopenhauer 2014; Bergson 2008). This refinement may seem plausible as there are examples of amusement involving erroneous conceptualisation, such as the following joke:

> A moron astronaut announced that he was planning to fly his rocket to the sun. When asked how he would withstand the heat, he said, 'Don't worry, I'll go at night'. (Morreall 2009, 99)

Clearly, this joke involves an erroneous conceptualisation—the moron astronaut has erroneously conceptualised night-time as the sun extinguishing instead of as the earth rotating. In this joke the erroneous conceptualisation is made by someone else, but there are also examples in which an erroneous conceptualisation is made by oneself. For example,

[3] A precise and widely accepted definition of 'social norm' is given by Cristina Bicchieri (2005), but proponents of the norm-violation refinement use the word 'norm' in a much wider sense.

the amusement at searching everywhere for one's spectacles only to find them on one's head (Morreall 2016, section 2).

However, there are counter-examples to the refinement that incongruity consists of erroneous conceptualisation. Some cases of amusement do not involve any erroneous conceptualisation on behalf of the amused subject or on behalf of the amusing characters, such as *Monty Python*'s sketch 'The Ministry of Silly Walks'. In fact, not only is amusement possible without erroneous conceptualisation, but it is even possible with *veracious* conceptualisation. Insightful witticisms often present one with a conceptualisation that is at least as veracious as that held previously.[4] Oscar Wilde provides an abundance of good examples:

> A man cannot be too careful in the choice of his enemies. (Wilde and Drew 1992, 10)
>
> I can resist everything except temptation. (Wilde 2008, 11)
>
> Newspapers have degenerated. They may now be absolutely relied upon. (Wilde 2010, 5)

With each of these insightful witticisms, one is presented with a conceptualisation that is certainly not more erroneous than the conceptualisation which one previously held. Quite the opposite—the witticisms are amusing because they are true.

Robert Lynch (2010) conducted an experiment to investigate whether people are indeed amused by certain things because they believe them to be true. He showed participants a video of stand-up comedians telling jokes which expressed certain gender and racial preferences. The laughter of participants was measured through facial muscle movement and their implicit gender and racial preferences were measured through association tests. Lynch found that participants laughed more at jokes that matched their implicit preferences and so concluded that laughter is increased when implicit preferences are aligned with. These results directly contradict the refinement that incongruity consists of erroneous conceptualisation, since participants were amused exactly because they believed the

[4] As Alexander Pope (2008, 8) observed, 'true wit is nature to advantage dress'd, what oft was thought, but ne'er so well express'd'.

proposed conceptualisation to be veracious. Likewise, Barry Kuhle (2012, 117) argues that stand-up comedian Chris Rock is popular exactly because his observations are 'theoretically sound and empirically supported'.

2.4 Error Detection

Some modern incongruity theorists propose that incongruity consists of error detection. In particular, Matthew Hurley et al. (2011) claim that amusement is the mental reward one receives for successfully detecting false beliefs. According to Hurley et al., the human mind naturally performs heuristic operations that have evolved to rapidly generate conclusions about the world. However, because these heuristic operations are performed rapidly, they generate fallible conclusions and are thereby risky. Luckily, the mind also naturally performs safeguard operations which have evolved to mitigate this risk. Amusement then arises from the mind simultaneously performing these heuristic operations and safeguard operations. Specifically, amusement occurs when the safeguard operations detect a false belief generated by the heuristic operations (Hurley et al. 2011, 4, 121).

The refinement that incongruity consists of error detection may seem plausible as there are examples of amusement involving error detection, such as the following joke:

> Two fish are in a tank. One turns to the other and says 'Quick, man the guns!' (Hurley et al. 2011, 42)

In this joke, one initially believes the referent of the word 'tank' to be an aquatic tank, but this belief is then detected to be false when one realises that the referent of 'tank' is actually a military tank. However, despite such examples, there are also counter-examples because claiming that incongruity consists of error detection is essentially equivalent to claiming that incongruity consists of erroneous conceptualisation and so the same counter-examples apply. For example, insightful witticisms do not involve any error detection as they are taken to be veracious and free from error.

Elliott Oring (2016, 90) even highlights a whole genre of jokes which are counter-examples to the refinement that incongruity consists of error detection:

> In the late 1970s, a whole set of jokes seems to have been spun off from … the format 'How many ___ does it take to change a light bulb?' with the blank being filled in by a variety of ethnic, occupational, gender, and other groupings … After being exposed to a few such jokes, recipients would quickly learn (1) the question is the setup of a joke, (2) the answer would likely identify an incongruous number of people necessary to change the bulb, (3) the number would be justified in terms of some stereotypic trait of the group identified in the question, and (4) this characteristic would be spurious as it was not something that would genuinely affect the performance of the task.

Oring explains that, as the joke recipients know points (1) to (4), they do not hold the belief that a single person will be enough to change the light bulb. Hence, they do not hold any false beliefs which can then be detected, and so such jokes are counter-examples to the refinement that incongruity consists of error detection. Even if recipients do not know the stereotypical trait of the group identified, they will still not have any belief falsified by the punch-line.

In this section, I have assessed unsuccessful refinements of incongruity. In the next section, I propose a bisociation refinement of incongruity.

3 Bisociation Refinement

In this section, I propose a bisociation refinement of incongruity. In Subsection 3.1, I uncritically review three bisociation theories of amusement, in Subsection 3.2, I propose a theoretical synthesis of those bisociation theories and, in Subsection 3.3, I critically assess that theoretical synthesis.

3.1 Bisociation Theories

A widely accepted refinement of incongruity theory is that incongruity consists of bisociation. The concept of bisociation was first proposed by

Arthur Koestler (1964) as the mental process central to humour production, scientific discovery and artistic creativity. Koestler (1964, 35) defines bisociation as follows:

> The perceiving of a situation or idea, L, in two self-consistent but habitually incompatible frames of reference, M1 and M2. The event L, in which the two intersect, is made to vibrate simultaneously on two different wavelengths, as it were. While this unusual situation lasts, L is not merely linked to one associative context, but bisociated with two.

Koestler (1964, 36) illustrates bisociation with the following example:

> When John Wilkes was the hero of the poor and lonely, an ill-wisher informed him gleefully: 'It seems that some of your faithful supporters have turned their coats.' 'Impossible,' Wilkes answered. 'Not one of them has a coat to turn.'

Koestler explains how, in this example, the word 'coat' is bisociated with two contexts: one metaphorical and one literal. Puns are also given as examples of bisociation because 'the pun is the bisociation of a single phonetic form with two meanings—two strings of thought tied together by an acoustic knot' (Koestler 1964, 64–65).

Although best classified as a play theorist, Michael Apter (1982) proposes a variant of bisocation which he calls 'cognitive synergy'. These cognitive synergies are 'situations in which contradictory meanings coexist' (Apter 1982, 136). Apter and Mitzi Desselles (2014, 641) provide the following characterisation:

> To be humorous, a communication must assign mutually exclusive qualities or meanings to some identity (person, object, statement, etc.) … The identity apparently escapes from logic, and more specifically from Aristotle's law of identity, which says that an identity cannot simultaneously be both A and not-A.

Apter and Desselles (2014, 641) give the example of how a person cannot both be an adult and a child but a child dressed up as an adult can be amusing because then they have qualities of both an adult and a child.

Apter explains that cognitive synergies can occur elsewhere besides humour, including art and religion. But, in particular, the cognitive synergies that occur in humour are those in which one contradictory meaning represents appearance while the other represents reality:

> On examination it will be found that all identities which provoke feelings of humour … involve two different levels … One of these levels can be referred to as that of reality and the other that of appearance, so that every example of humour can be characterised as involving 'real/apparent' synergy. (Apter 1982, 177)

Apter (1982, 180–181) notes that real/apparent synergies are often exemplified by comedic characters: 'The character of Don Quixote principally involves a continuing synergy between being dignified and undignified, and between chivalry and foolishness; Falstaff's character a synergy between bravery and cowardice, pomp and ignominy, craftiness and stupidity; Charlie Chaplin's 'little tramp' character, a synergy between such opposites as competent and incompetent, helpful and helpless, meticulous and shabby'.

Victor Raskin (1985) also proposes a variant of bisociation in his Semantic Script Theory of Humour (SSTH).[5] For Raskin (1985), a 'script' is a cognitive structure of semantic information that is associated with a certain word and internalised by a certain speaker.[6] For example, the script DOCTOR is a cognitive structure of all the semantic information associated with the word 'doctor' and represents the speaker's knowledge of doctors. A script can be mathematically represented as a graph in which the nodes are lexical and the links between nodes are semantic, specifically the links 'characterize the relations between the nodes' (Raskin 1985, 82).[7] For example, the script DOCTOR has as its central node the

[5] Raskin (1985) denies that SSTH is a bisociation theory but others disagree (Attardo 1997; Oring 2016). The SSTH was later developed into the General Theory of Verbal Humour (GTVH) by Attardo and Raskin (1991). However, since the central bisociation concept remains the same in SSTH and GTVH, an exposition of just SSTH will suffice for my purposes.

[6] Semantics is the branch of linguistics concerned with how meaning is assigned to words and sentences.

[7] Graph theory is the branch of mathematics which studies graphs composed of nodes connected by links. Visually, these graphs can be represented as a collection of points connected by a network of lines.

word 'doctor' which is linked to the node 'physician' by synonymy and is linked the node 'profession' by hyponymy (Raskin 1985, 80–83).[8]

Raskin (1985, 76) explains that reading certain words in a text activates their corresponding script. For example, reading the word 'doctor' in a text would activate the DOCTOR script. When reading a text, a list of scripts is activated for each word and conflicting combinations of scripts are discarded. The text is finally disambiguated when all but one combination of scripts is left un-discarded (Raskin 1985, 68). However, there can be more than one combination of scripts left un-discarded even after this process is completed (Raskin 1985, 104–107). For example, after reading the sentence 'Smith works in a surgery and treats patients', both the script DOCTOR and the script DENTIST are left un-discarded. Hence, the sentence is compatible with both the DOCTOR and DENTIST script.

Given this theoretical framework, Raskin (1985, 99) states the main proposal of SSTH as follows:

> A text can be characterized as a single-joke-carrying text if … (i) The text is compatible, fully or in part, with two different scripts; and (ii) the two scripts with which the text is compatible are opposite in a special sense.

Raskin (1985, 99) specifies that (i) and (ii) are individually necessary and collectively sufficient conditions for a text to be a joke. So not only must a text be fully or partially compatible with two scripts, but those two scripts must also be 'opposite'. Raskin (1985, 111) states that the most basic way that two scripts can be opposite is if one describes a real situation and the other describes an unreal situation. This basic opposition of real/unreal can be instantiated in more specific oppositions of actual/non-actual, normal/abnormal and possible/impossible, which can in turn be instantiated in even more specific oppositions such as good/bad, life/death and rich/poor (Raskin 1985, 113–114).

[8] Two words are hyponymous when one has its meaning included in that of the other. For example, 'scarlet' is a hyponym of 'red'.

To illustrate his main proposal, Raskin (1985, 117–127) analyses the following joke in terms of SSTH:

> 'Is the doctor at home?' the patient asked in his bronchial whisper. 'No,' the doctor's young and pretty wife whispered in reply. 'Come right in.'

According to SSTH, each word in this text activates a list of scripts which are discarded until only two scripts are left: DOCTOR and LOVER. However, the DOCTOR script requires the presence of the doctor and the LOVER script requires the absence of the doctor, so the text is partially compatible with DOCTOR and fully compatible with LOVER. Thus condition (i) of SSTH is satisfied. Furthermore, DOCTOR and LOVER are opposite scripts since LOVER describes the actual situation and DOCTOR describes a non-actual situation. Thus condition (ii) of SSTH is satisfied and the text can be characterised as containing a joke.

3.2 Theoretical Synthesis

The problem with both Koestler's and Apter's bisociation theories is that the basic constituents are not rigorously defined. Koestler (1964, 35) refers to 'a situation … in two self-consistent but habitually incompatible frames of reference' and Apter (1982, 136) refers to 'situations in which contradictory meanings coexist', but neither provides a rigorous definition of what a 'frame of reference' or a 'meaning' actually is.[9] In contrast, Raskin's (1985) bisociation theory is based on a rigorous definition of 'scripts' which largely comes from Roger Schank and Robert Abelson (1977). But Raskin's SSTH is a linguistic theory of humour and, as a

[9] Graeme Ritchie (2004, 51–52) outlines this problem with Koestler's (1964) bisociation theory as follows:

> There is still not a clear formal definition of Koestler's terminology ('frames', 'perceive in', 'habitually incompatible') which would allow researchers to predict whether particular stimuli (e.g. specific texts) would count as manifesting bisociation or not … The answer to 'what is a frame?' is '(virtually) anything'.

linguistic theory, its scope is restricted to jokes. The intended scope of my own bisociation refinement is *all* objects of amusement and so I require a basic constituent with an application wider than that of Raskin's theory but also with a definition more rigorous than that of Koestler's and Apter's theories. Hence, I propose a bisociation refinement based on the notion of 'interpretation' from philosophical logic.

In philosophical logic, an interpretation is an assignment of meaning to the symbols of a language (Tomassi 1999; Hodges 2001). The result of this assignment is that sentences in the language are assigned a truth-value by the interpretation.[10] For example, the sentence 'Eddie is British' would be assigned a positive truth-value by an interpretation under which 'Eddie' refers to Eddie Izzard. However, the same sentence would be assigned a negative truth-value by an interpretation under which 'Eddie' refers to Eddie Murphy.[11] Furthermore, one activates an interpretation of a particular object by assigning truth-values to sentences about that object. For example, if one activates an interpretation of Eddie Izzard, then one assigns truth-values to sentences about Eddie Izzard—sentences such as 'Eddie is short' or 'Eddie is surreal'. But note that this does not mean that one assigns truth-values to *every* sentence about Eddie Izzard. There could be some sentences to which one does not assign any truth-value—sentences such as 'Eddie's favourite colour is blue'.

Given this rigorous definition of 'interpretation' from philosophical logic, I propose the following bisociation refinement of incongruity:

> **Bisociation Refinement:** If subject *S* is amused by object *O*, then *S* activates two inconsistent interpretations because of *O*.

Bisociation Refinement proposes that if subject *S* is amused by object *O*, then *S* activates two interpretations because of *O*, and that those two interpretations are 'inconsistent'. I define two interpretations to be inconsistent when there is at least one sentence to which one interpretation

[10] A truth-value is the value assigned to a sentence in respect of its truth or falsity. If a sentence is true, then it has a positive truth-value, and if a sentence is false, then it has a negative truth-value.

[11] This is assuming, of course, that both interpretations assign the usual meaning to the phrase 'is British'.

assigns a positive truth-value and the other interpretation assigns a negative truth-value.

For an example of Bisociation Refinement, consider the *Fawlty Towers* episode 'The Hotel Inspectors' in which Basil mistakes an ordinary guest, Mr Hutchinson, for a hotel inspector. As the scenes unfold, there are two interpretations of Mr Hutchinson: one of him as an ordinary guest and one of him as a hotel inspector. One interpretation assigns a positive truth-value to the sentence 'Mr Hutchinson is a hotel inspector', whereas the other interpretation assigns a negative truth-value to the same sentence. Hence, the two interpretations are inconsistent because there is a sentence about Mr Hutchinson to which one interpretation assigns a positive truth-value and the other interpretation assigns a negative truth-value.

These two inconsistent interpretations of Mr Hutchinson illustrate Bisociation Refinement as applied to a character, but inconsistent interpretations can be activated for anything. In Charlie Chaplin's *The Gold Rush*, the Little Tramp prepares his old boot to be eaten as if it were a Thanksgiving turkey, thereby causing one to activate inconsistent interpretations of the meal. Bisociation Refinement can also apply to situations, such as in the following joke:

> Smith calls Jones and warns him to be careful driving on the motorway because the radio says there's a nut driving in the wrong direction. 'No kidding,' says Jones. 'There are hundreds of them!' (Carroll 2014, 66)

Here one activates inconsistent interpretations that assign opposing truth-values to the sentence 'Jones is the nut'. Bisociation Refinement can even apply to single words in puns like 'I used to be a banker before I lost interest'—here one activates both financial and motivational interpretations of the word 'interest'.

3.3 Critical Assessment

Counter-examples to Bisociation Refinement can come in two types: cases of amusement with only one interpretation, or cases of amusement

with two interpretations that are not inconsistent. A potential counter-example of the first type is the infamous Aristocrats Joke which involves a family act performing their routine for a talent agent. The joke teller aims to elicit amusement from the listener by improvising a description of the family's routine which is as obscene as possible. The joke ends with the talent agent asking the family what they call their act, to which the family replies 'The Aristocrats!' This infamous joke is a potential counter-example to Bisociation Refinement because it seems that amusement is not caused by activating two interpretations, but rather by activating just one interpretation which assigns a positive truth-value to the sentence 'the family's routine is obscene'.[12]

However, proper examination of the Aristocrats Joke reveals that it actually activates two interpretations: one obscene and one innocuous. Of course, under one interpretation, the description of the family's routine is obscene. But, under another interpretation, the description is innocuous because the acts described are fictional. If the listener thought that the joke was a factual description rather than a fictional one, then they would be appalled rather than amused. Importantly, the listener activates an interpretation which assigns a negative truth-value to the sentence 'the family's routine is obscene', and the obscene interpretation of the joke must be coupled with this innocuous interpretation in order to elicit amusement. Thus, the Aristocrats Joke is not a counter-example to Bisociation Refinement.

Another potential counter-example of the first type is *schadenfreude* and amusement at the failure of others. For example, consider amusement at a golfer for badly missing an easy putt. Here it seems that amusement does not involve activating two interpretations but rather activating just one interpretation under which the golfer is seen as incompetent. However, in defence of Bisociation Refinement, consider which cases of failure are actually the amusing ones. There is not much amusing about a beginner golfer missing an easy putt and even less about a young child

[12] Arguably, the punch-line 'The Aristocrats!' is mildly ironic and so could activate two interpretations. However, the punch-line is clearly not the main cause of amusement in the joke since the listener is typically most amused during the obscene description and before the punch-line has occurred.

doing so. The putt must be missed by an intermediate golfer, better yet a professional, to be amusing. This is because failure is only amusing when an interpretation of competence is also activated. Thus, the case is not a counter-example to Bisociation Refinement since it activates two interpretations which assign opposing truth-values to the sentence 'the golfer is competent'.

Another potential counter-example of the first type is slapstick comedy and amusement at exaggerated physical activity. It may seem that for slapstick there is only one interpretation of scenes as clumsy or embarrassing and that there is no additional inconsistent interpretation. However, I argue that slapstick comedy rarely consists of simply someone falling down or being hit with something. Instead there is almost always an elaborate set-up which enables two interpretations to be activated. For example, consider the famous mirror scene in *Duck Soup* when Harpo pretends to be Groucho's reflection by matching his every move to near perfection. Here the two inconsistent interpretations are of Harpo as himself and as Groucho's reflection. Likewise, consider the scenes in *Home Alone* when the crooks suffer various injuries from springing booby traps such as a red-hot doorknob or an iron attached to a light-switch. Here there are two interpretations of objects like the doorknob or light-switch: one harmless and one harmful.

On the rare occasions that slapstick comedy consists of simply someone falling down or being hit with something, the interpretation of harm must still be coupled with an interpretation of harmlessness in order for one to be amused. If one believes that the victim is genuinely hurt, then one's amusement is diminished just as when one witnesses a real injury. Of course, the main thrust of slapstick comedy is not based on inconsistent interpretations, but rather is based on the affective component of amusement, which will be defined in Chapter 5.

A final potential counter-example of the first type is amusement at calculated pranks, like leaving a bucket of water balancing above a door. It may seem that there is only a single interpretation of events when one is amused by a bucket of water falling on a victim. However, I argue that actually there are two interpretations: one from the viewer's perspective

and one from the victim's perspective. Key to amusement in calculated pranks is the unsuspecting perspective of the victim who is clueless about the bucket of water. If the victim was aware that a bucket of water was balanced above the door, then there would be nothing amusing about the events. Hence, amusement at calculated pranks actually does involve two inconsistent interpretations.

It seems then that there are no standing counter-examples to Bisociation Refinement of the first type. Counter-examples of the second type are cases of amusement with two interpretations that are not inconsistent. In such cases, if the two interpretations are not inconsistent, then there are no sentences to which one interpretation assigns a positive truth-value and the other assigns a negative truth-value. But then it would be possible to make a compound interpretation consisting of both interpretations put together, and this compound interpretation would mean that the case of amusement would now involve only one interpretation. However, if the case involved only one interpretation, then it would constitute a counter-example of the first type and since there are no standing counter-examples of the first type, there must be no standing counter-examples of the second type either.

In this section I have proposed a bisociation refinement of incongruity in the form of Bisociation Refinement. In the next section, I propose a resolution refinement of incongruity.

4 Resolution Refinement

In this section, I propose a resolution refinement of incongruity. In Subsection 4.1, I uncritically review two resolution theories of amusement, in Subsection 4.2, I propose a theoretical synthesis of those resolution theories and, in Subsection 4.3, I critically assess that theoretical synthesis.

4.1 Resolution Theories

A widely accepted refinement of incongruity theory is that incongruity requires resolution. The modern concept of resolution was first proposed by Thomas Shultz (1972, 1974a, 1976) and Jerry Suls (1972, 1983).[13] Independently, both Shultz (1972) and Suls (1972) modelled amusement as a two-stage process involving the perception of incongruity and the resolution of incongruity.

Shultz (1972) models amusement as a two-stage process in which the object of amusement presents one with some initial information and then some further information. An incongruity is perceived when one finds the further information to be incompatible with the most obvious meaning of the initial information (Shultz 1976, 13). This incongruity is resolved when one reassesses the initial information and finds an ambiguity that allows for a less obvious meaning that is compatible with both the initial and further information. The ambiguity allowing for this resolution can take different forms, such as lexical, syntactic and non-linguistic.

Shultz (1976, 13) illustrates his two-stage model of incongruity and resolution with the following joke:

> Consider the old W.C. Fields' joke, where someone asked, 'Mr Fields, do you believe in clubs for young people?' and he replied, 'Only when kindness fails'.

Shultz explains that here one perceives an incongruity because the answer is incompatible with the most obvious meaning of the question. This incongruity is resolved when one reassesses the question and finds an ambiguity in the word 'clubs'. The most obvious meaning is that 'clubs' refers to social groups, but a less obvious meaning is that it refers to large sticks. It is this lexical ambiguity which allows for a less obvious meaning that is compatible with both the question and the answer.

[13] Although the modern concept of resolution was first proposed by Shultz and Suls, the refinement had been hinted at before (Aristotle 1991; Kierkegaard 2009; Freud 2014).

Suls (1972) models amusement as a two-stage process represented by a flowchart. The central cycle of the flowchart involves acquiring information from a text and generating expectations about further information on that basis. An incongruity is perceived when the end of the text conflicts with a generated expectation. Resolution of incongruity then takes the form of finding a 'cognitive rule … which makes the punchline follow from the main part of the joke and reconciles the incongruous parts' (Suls 1972, 82). If a cognitive rule is found, then amusement results, but if no cognitive rule is found, then puzzlement results. The final stages of Suls' (1972) flowchart can be summarised as follows:

> Read text and generate expectations. Does the text conflict with expectations?
>
> - No: No surprise and no amusement.
> - Yes: Surprise. Can a cognitive rule be found?
>   - No: Puzzlement.
>   - Yes: Amusement.

Suls (1972, 90) illustrates his two-stage model of incongruity and resolution with the following joke:

> O'Riley was on trial for armed robbery. The jury came out and announced, 'Not guilty.' 'Wonderful,' said O'Riley, 'Does that mean I can keep the money?'

According to Suls (1972, 90), one reads this joke and generates expectations until one reaches the end, at which point the text conflicts with one's expectations. This results in surprise and causes one to search for a cognitive rule that allows the end of the text to follow from the preceding information. One finds this cognitive rule when one realises that O'Riley is guilty and the jury's verdict was wrong. This results in amusement, but if one were unable to find a cognitive rule, then puzzlement would result instead.

4.2 Theoretical Synthesis

The problem with Shultz's and Suls' resolution theories is that they both characterise resolution as the finding of a coherent explanation, but this characterisation has counter-examples. For example, consider Charles Addams' cartoon *The Skier* in which the fresh tracks of a passing skier impossibly run either side of a tree trunk before meeting up again. Here one is amused but one does not find a coherent explanation for this impossible incongruity. John Morreall (1987, 197) even describes the cartoon as 'based on unresolved incongruity'. By characterising resolution as the finding of a coherent explanation, both Shultz and Suls equate resolution in amusement with resolution in puzzle-solving. But the form of resolution that occurs in amusement is often not as coherent as the form of resolution that occurs in puzzle-solving.

According to Noël Carroll (2014, 36), 'when we are engaged in authentic puzzle-solving, our pleasures blossom once we achieve our commitment to really resolving the pertinent incongruities—that is, to making genuine sense and dispelling apparent nonsense'. Carroll (2014, 36) contrasts puzzle-solving resolutions with amusing resolutions in which 'we are not concerned to discover legitimate resolutions to incongruities, but at best, as in the case of jokes, to marvel at the appearance of sense, or the appearance of congruity, in what is otherwise recognized as palpable nonsense'. Elliott Oring (2003, 5–6) similarly maintains that 'it seems to be that the reason riddles and jokes are humorous while definitions and metaphors are not is that in jokes the engagement of the incongruity and the search for [resolution] is spurious rather than genuine'.

Another way to formulate Carroll's and Oring's point is to claim that amusing resolutions use 'unsound reasoning'. To clarify, 'reasoning' is the process of inferring a conclusion from premises, and this process is 'unsound' when either a premise is false or the inference is invalid.[14] For example, consider the following reasoning:

[14] An inference is invalid when it is possible for all the premises to be true and the conclusion to be false.

Premise 1: Snow is white or grass is red.
Premise 2: Snow is not white.
Conclusion: Grass is red.

In this reasoning, the inference is not invalid because it is not possible for all the premises to be true and the conclusion to be false. However, the reasoning is still unsound because Premise 2 is false. Hence, this reasoning could be used in an amusing resolution. Now consider the following reasoning:

Premise 1: Snow is white or grass is red.
Premise 2: Grass is not red.
Conclusion: Snow is blue.

Here the premises are both true but the reasoning is still unsound because the inference is invalid, that is, it is possible for all the premises to be true and the conclusion to be false. Hence, this reasoning could be used in an amusing resolution. Finally, consider the following reasoning:

Premise 1: Snow is white or grass is red.
Premise 2: Grass is not red.
Conclusion: Snow is white.

Here the reasoning is not unsound because none of the premises are false and the inference is not invalid. Hence, this reasoning could be used in a puzzle-solving resolution but would not be used in an amusing resolution.

That amusing resolutions use unsound reasoning is a claim that has been proposed before, though not using the same terminology. For example, Avner Ziv was the first to note that jokes often use logic that is not immediately acceptable because it occupies 'a middle position between logical and pathological thinking' and so to be amused 'one has to … take momentary leave of Aristotelian logic' (Ziv 1984, 98, 77). Salvatore Attardo (1994, 226) similarly describes 'a distorted, playful logic, that does not hold outside of the world of the joke'. Likewise, Christian Hempelmann (2014, 494) proposes two classes of logic used in jokes: '(1) logic that is in principle false, like the assumption underlying the mechanism in puns, namely, that the sound of a word is related to the meaning of the word; and (2) logic that could be correct but is applied in

a wrong, or at least defeasible, way.' In general, Ziv, Attardo and Hempelmann roughly propose that the reasoning used in amusing resolutions is unsound, though not quite using that terminology.

Given the claim that amusing resolutions use unsound reasoning, I propose the following resolution refinement of incongruity:

> **Resolution Refinement:** If subject *S* is amused by object *O*, then *S* perceives an incongruity via unsound reasoning because of *O*.

Resolution Refinement proposes that if subject *S* is amused by object *O*, then *S* perceives an incongruity because of *O*, and that this perception is 'via' unsound reasoning. This is because the perceived incongruity exists because of and is explained by the unsound reasoning.

For an example of Resolution Refinement, consider first Hempelmann's (2008, 344–345) description of the reasoning behind puns:

> *Premise 1*: The sound of a word is determined by its meaning.
> *Premise 2*: The sound of two words is identical.
> *Conclusion*: The meaning of those two words is identical.

Here the inference from the premises to the conclusion is not invalid and Premise 2 is true in the case of a pun. But, clearly, Premise 1 is not true. There are many words which share the same sound without sharing the same meaning. For example, the financial 'bank' and the fluvial 'bank'. Hence, Premise 1 is false and so the reasoning is unsound. Now consider the following pun:

> Why should you wear a watch in the desert? Because a watch has springs in it. (Oring 2003, 6)

This pun works because the word 'springs' refers both to tightly wound coils and to sources of water. According to Hempelmann's reasoning then, tightly wound coils must be the same as sources of water. So, since a watch contains tightly wound coils and sources of water are useful in the desert, one can conclude that a watch contains something that is useful in the desert. Thus, this pun is an example of Resolution Refinement since it causes one to perceive an incongruity via the unsound reasoning given by Hempelmann.

Resolution Refinement finds support in Mary Rothbart and Diana Pien's (1977) claim that resolution does not always completely remove incongruity. For example, consider the following:

> Why did the elephant sit on the marshmallow? Because he didn't want to fall into the hot chocolate. (Rothbart and Pien 1977, 37)

According to Rothbart and Pien, the question in this joke introduces an incongruity, and the answer partially resolves this incongruity but also introduces a new incongruity. It has been explained why the elephant sat on the marshmallow, but it has not been explained why the elephant may fall into the hot chocolate. Thus, some incongruity is removed but some remains and there is not a complete removal of incongruity. Resolution Refinement finds support in such examples because, if resolution uses unsound reasoning, then incongruity cannot be completely removed. The complete removal of incongruity would require using the sound reasoning found in puzzle-solving resolutions as opposed to the unsound reasoning found in amusing resolutions.

Resolution Refinement also finds support in experiments indicating that resolution is necessary for amusement. For example, Shultz (1972, 1974b) conducted experiments in which children were presented with cartoons and riddles as well as incongruity-removed and resolution-removed versions of those cartoons and riddles. Based on the children's responses, Shultz concluded that the unedited cartoons and riddles were more effective at eliciting amusement than either of the edited cartoons and riddles. Similarly, Shultz and Horibe (1974) conducted experiments in which children were presented with jokes as well as incongruity-removed and resolution-removed versions of those jokes. The results showed that the unedited versions elicited the most laughter and were rated the most amusing, the resolution-removed versions elicited less laughter and were rated less amusing, and the incongruity-removed versions elicited the least laughter and were rated the least amusing. Hence, there is experimental support for claiming that resolution is necessary for amusement.

In addition, fMRI studies provide support for the claim that the cognitive component of amusement involves both the perception and the

resolution of incongruity. Andrea Samson et al. (2008) distinguished between the brain activity associated with incongruity perception and with incongruity resolution by presenting participants with cartoons either containing only incongruity or containing incongruity and resolution. Likewise, Yu-Chen Chan et al. (2013) identified different brain regions involved in the perception and resolution of incongruity for verbal humour.

4.3 Critical Assessment

One potential problem for Resolution Refinement concerns restrictions on the unsound reasoning used during resolution. For example, consider the following reasoning:

Premise 1: All men are mortal.
Premise 2: Socrates is a man.
Conclusion: Santa Claus exists.

Clearly, this reasoning uses an invalid inference and so is unsound. However, this unsound reasoning seems too arbitrary to be used even during amusing resolutions, and so perhaps restrictions need to be imposed on *which* invalid inferences can be used during resolution. One such restriction is to claim that the only invalid inferences that can be used are those which bear a sufficient resemblance to valid inferences. This is the restriction that Graeme Ritchie (2014, 58) suggests when he states that resolutions seem to 'have a close resemblance to a valid line of reasoning, differing only in small, systematic respects, so that the flawed statements are relatively similar to non-flawed versions'.

However, contra Ritchie, I argue that the invalid inferences used in amusing resolutions do not necessarily have to bear a resemblance to valid inferences. Rather, the restriction I propose focuses on *salience*. Provided that the invalid inference is made salient to the amused subject, then even the unsound reasoning above can be used in an amusing resolution. It is through this salience that the subject is able to reconstruct

that particular invalid inference as opposed to any other and thereby resolve the incongruity. Making the invalid inference resemble a valid inference is then just one of the ways of making it salient. Thus, I add as a caveat to Resolution Refinement that, in order for the subject to resolve the incongruity, any invalid inferences must be made salient to them.

Another potential problem for Resolution Refinement can be found in Göran Nerhardt's (1970, 1976) weight-lifting experiments. Nerhardt asked participants to lift a series of weights, one after another. The first few weights in the series had a similar mass of between 450 grams and 550 grams, but then there was a much lighter or heavier weight with a mass of either 50 grams or 3000 grams. When participants would lift this divergent weight, they would frequently express amusement through smiling or laughing. In addition, Nerhardt (1970, 1976) found that increasing the divergence from the average mass of the preceding weights would increase the participant's expressions of amusement. From these results, Nerhardt (1976) concluded that it is possible for incongruity to elicit amusement without resolution and hence resolution is not necessary for amusement.

However, in response, I argue that if what is meant by 'resolution' is characterised as per Resolution Refinement, then resolution is present even in Nerhardt's weight-lifting experiments. This is because, in Nerhardt's experiments, participants arrive at the incongruity via unsound reasoning to the false conclusion that all weights in the series have a similar mass. Hence, participants perceive the incongruity via unsound reasoning and so Nerhardt's experiments are not problematic when resolution is characterised as per Resolution Refinement.

Counter-examples to Resolution Refinement are cases of amusement without unsound reasoning. However, such cases are not forthcoming because, according to Bisociation Refinement, amusement requires the activation of two inconsistent interpretations, and inconsistent interpretations can only be activated via unsound reasoning. If one's reasoning is sound, then one is validly inferring true conclusions from true premises, which means that one cannot assign positive and negative truth-values to the same sentence. So, if sound reasoning cannot activate inconsistent interpretations, then amusement must always involve unsound reasoning. Thus, according to Bisociation Refinement, there are no counter-examples to Resolution Refinement.

In this section, I have proposed a resolution refinement of incongruity in the form of Resolution Refinement. In the next section, I combine Bisociation Refinement and Resolution Refinement to define the cognitive component of amusement.

5 The Cognitive Component of Amusement

There is a potential problem to combining Bisociation Refinement and Resolution Refinement. Generally, bisociation theories understand amusement as deriving from incongruity itself and so would adopt a *simultaneous* activation view where the two inconsistent interpretations are activated together at the same time. In contrast, resolution theories understand amusement as deriving from the removal of incongruity and so would adopt a *successive* activation view where one interpretation is activated after another. Hence, any combination of Bisociation Refinement and Resolution Refinement would have to somehow adopt both a simultaneous and successive activation view.[15]

However, I argue that such a simultaneous-successive activation view is possible by proposing that there is a successive activation of interpretations but during this succession there is a brief period during which both interpretations are activated simultaneously. Under this view, simultaneous activation occurs but it cannot occur without successive activation. So, bisociation theories are right that amusement derives from incongruity itself but also resolution theories are right that resolution is necessary for amusement.

Given this simultaneous-successive activation view, I combine Bisociation Refinement and Resolution Refinement to propose the following definition of the cognitive component of amusement:

> **Cognitive Component of Amusement (CCoA):** If subject *S* is amused by object *O*, then *S* activates two inconsistent interpretations via unsound reasoning because of *O*.

[15] Jyotsna Vaid et al. (2003) conducted an experiment investigating whether the simultaneous activation view or successive activation view is the correct one, but the results were inconclusive.

CCoA combines Bisociation Refinement and Resolution Refinement, as it is the unsound reasoning from Resolution Refinement that allows for the activation of inconsistent interpretations from Bisociation Refinement. Hence, as per the simultaneous-successive activation view, amusement derives from incongruity but resolution is necessary for amusement.

Considering diverse examples from Section 1 will help to demonstrate the wide scope of CCoA. Recall Buster Keaton's slapstick gag in which he narrowly misses being squashed by a falling house-front because the window-frame falls around him. Here two inconsistent interpretations are activated which assign opposing truth-values to the sentence 'Keaton will be squashed by the house-front', and these interpretations are activated via the false premise that the window-frame will not fall around him. Recall the stand-up comedy of Don Rickles, who insults his audience to their face. Here two inconsistent interpretations assign opposing truth-values to the sentence 'Rickles is insulting his audience' and are activated via the false premise that Rickles sincerely means what he says.

Recall Lewis Carroll's nonsense poem 'Jabberwocky'. Here two inconsistent interpretations assign opposing truth-values to the sentence 'the verse is meaningful' and are activated via the invalid inference that words which sound similar have a similar meaning. Recall the joke in which a moron asks to have their pizza cut into fewer slices because they are on a diet. Here two inconsistent interpretations assign opposing truth-values to the sentence 'the pizza has fewer calories' and are activated via the invalid inference that fewer slices always means fewer calories. From slapstick to insults to nonsense to jokes, it seems the scope of CCoA is wide enough to cover almost any object of amusement.

Not only does CCoA have plentiful examples to support it, but also any potential counter-examples have already been avoided through critically assessing Bisociation Refinement and Resolution Refinement. CCoA also avoids Mike Martin's (1987) counter-examples to Michael Clark's (1970) incongruity theory. For example, one of Martin's (1987, 176) counter-examples was 'the stunning incongruities permeating Picasso's work'. CCoA avoids this potential counter-example because, although when one admires a Picasso one perceives an incongruity, one does not activate two inconsistent interpretations via unsound reasoning. Unlike Clark's incongruity theory, CCoA manages to avoid Martin's

counter-examples because it refines the ordinary concept of incongruity and more precisely captures the cognitive component of amusement.

In this section, I have combined Bisociation Refinement and Resolution Refinement to define CCoA. In the next section, I summarise the key claims of this chapter.

6 Chapter Summary

In this chapter, I have defined the cognitive component of amusement by critically assessing incongruity theories. In Section 1, I accepted that incongruity is necessary for amusement but also found that the concept of incongruity needed refining. In Section 2, I critically assessed unsuccessful refinements of incongruity. In Section 3, I proposed a bisociation refinement of incongruity as follows:

> **Bisociation Refinement:** If subject *S* is amused by object *O*, then *S* activates two inconsistent interpretations because of *O*.

In Section 4, I proposed a resolution refinement of incongruity as follows:

> **Resolution Refinement:** If subject *S* is amused by object *O*, then *S* perceives an incongruity via unsound reasoning because of *O*.

In Section 5, I combined Bisociation Refinement and Resolution Refinement to yield the following:

> **Cognitive Component of Amusement (CCoA):** If subject *S* is amused by object *O*, then *S* activates two inconsistent interpretations via unsound reasoning because of *O*.

In Chapter 5, I define the affective component of amusement by critically assessing superiority theories, release theories and play theories. Finally, in Chapter 6, I complete Theory of Amusement (ToA) from Chapter 2 by combining CCoA with my definition of the affective component of amusement.

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5

The Affective Component of Amusement

Abstract In this chapter, I define the affective component of amusement by critically assessing superiority theories, release theories and play theories. In Section 1, I assess superiority theories to extract a key insight, in Section 2, I assess release theories to extract a key insight, in Section 3, I assess play theories to extract a key insight and, in Section 4, I combine these key insights to define the affective component of amusement. Finally, in Section 5, I summarise the key claims of this chapter.

Keywords Affective • Amusement • Superiority • Release • Play

1 Superiority Theories

In this section, I assess superiority theories. In Subsection 1.1, I assess Early Superiority Theory from Chapter 3, in Subsection 1.2, I assess a modern superiority theory and, in Subsection 1.3, I extract a key insight from superiority theories.

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1.1 Early Superiority Theory

Early Superiority Theory from Chapter 3 proposes that sudden feelings of superiority are both necessary and sufficient for amusement. Counter-examples to the necessity of superiority are cases of amusement without superiority, whereas counter-examples to the sufficiency of superiority are cases of superiority without amusement. Francis Hutcheson (1987, 27–29) was the first to give counter-examples of both types.

For a counter-example to the sufficiency of superiority, Hutcheson (1987, 29) stated that 'if we observe an object in pain while we are at ease, we are in greater danger of weeping than laughing'. For example, consider being cosy at home during a winter's evening and looking out the window to see a homeless person enduring a bitter rain shower. Certainly, one would experience sudden feelings of superiority with respect to comfort and security, but one would certainly not be amused. More likely, one would feel pity and perhaps even guilt. Hence, there are cases in which one experiences sudden feelings of superiority without experiencing amusement.

Superiority theorists may attempt to defend the sufficiency of superiority by specifying that the only inferiorities that are amusing are those which do not rouse any strong negative emotions like pity, fear or anger (Aristotle 1987; Descartes 1989; Bain 1865). However, contra to this defence, Hutcheson (1987, 29) notes that there are also counter-examples in which amusement is not precluded by any negative emotion:

> An orthodox believer, who is very sure that he is in the true way to salvation, must always be merry upon heretics, to whom he is so much superior in his own opinion … In general, all men of true sense, and reflection, and integrity … must be the merriest little grigs imaginable.

As Hutcheson points out, there are cases of superiority without amusement and also without any negative emotion precluding amusement. For example, when an adult teaches a child to read, they feel superior to the child with respect to reading and yet the adult is not amused despite the absence of any negative emotion. Hence, counter-examples are not avoided by the superiority theorists' attempted defence.

For a counter-example to the necessity of superiority, Hutcheson (1987, 27) gave the following simile from Samuel Butler:

> And like a lobster boil'd, the morn
> From black to red began to turn.

Although Butler's simile may not be particularly amusing nowadays, there are certainly other examples of amusement without superiority. Consider the following joke:

> What do Alexander the Great and Winnie the Pooh have in common? The same middle name. (Cohen 1999, 76)

In the case of innocuous humour like this, one experiences amusement but without experiencing sudden feelings of superiority. One does not feel superior to the characters in the above joke, nor does one feel superior to the creator of the joke. If anything, the creator's cleverness makes one feel inferior.

Superiority theorists may attempt to defend the necessity of superiority by arguing that, even for innocuous humour, one experiences superiority derived from feeling sophisticated for recognising and appreciating the humour in the first place. However, contra to this defence, there are also counter-examples of innocuous humour for which sophistication is not required. For example, in Charlie Chaplin's film *Pay Day*, the Little Tramp has bricks tossed up to him from behind but manages to catch every brick flawlessly without turning around, sometimes even catching them between his legs or catching them two at a time. Here one's amusement cannot be caused by feelings of superiority because the stunt is far beyond one's ability to achieve. Moreover, recognising and appreciating the Little Tramp's super-human ability does not require a sophistication of any sort. Hence, counter-examples are not avoided by the superiority theorists' attempted defence. Overall then, it seems that superiority is neither necessary nor sufficient for amusement.

1.2 Modern Superiority Theory

Despite counter-examples to the necessity and sufficiency of superiority, there is still some contemporary support for superiority theories. Arthur Koestler, although an incongruity theorist, specifies that amusement requires 'an impulse, however faint of aggression or apprehension' and this gives humour an 'aggressive-defensive or self-asserting tendency' (Koestler 1964, 51, 52). Similarly, Dolf Zillmann and Joanne Cantor (1976, 101) state that all amusement involves disparagement, specifically 'something malicious and potentially harmful must happen, or at least, the inferiority of someone or something must be implied, before a humor response can occur'.

Some modern theorists characterise amusement in terms of devaluation rather than superiority. Roger Scruton (1982, 208) conjectures that 'if people dislike being laughed at, it is surely because laughter devalues its object in the subject's eyes'. He analyses amusement to be a kind of 'attentive demolition' either of someone's identity or of something connected to their identity (Scruton 1982, 209). Although best classified as a play theorist, Michael Apter (1982, 179–180) similarly proposes that in all humour 'the reality should in some way be 'less than' the appearance' and that 'the 'less than' relationship may be of various kinds: lower in status, less in monetary value, weaker, and so on'.[1]

Charles Gruner (1978, 1997) concedes that superiority is not sufficient for amusement but attempts to maintain the necessity of superiority by claiming that all humour fundamentally involves a 'playful aggression'. According to Gruner, humour involves aggression because it is directed towards making one person superior, but this aggression is playful because there is no serious harm intended. He thereby construes humour as a contest with winners and losers: 'successful humor, like enjoying success in sports and games (including the games of life), must include winning ('getting what we want'), and sudden perception of that

[1] Robert Wyer and James Collins (1992, 667) broaden Apter's proposal so that devaluation applies not just to the content of information but also to the information itself. For example, in shaggy dog stories, it is not the content of the information that is devalued, but rather the information itself as the story ends without a proper conclusion.

winning' (Gruner 1997, 9). So, all humour follows 'the formula of a contest, resulting in both a winner and a loser' (Gruner 1997, 109).

In order to avoid counter-examples of innocuous humour, Gruner claims that innocuous wordplay originates from contests in which people competed for intellectual superiority through verbal dexterity. According to Gruner (1997, 145), wordplay remains a way of 'winning' a conversation today: 'creators of puns and punning riddles do so in order to 'defeat' their targets/publics with brilliant verbal expressionism'. He offers the following as an example of when two people compete in conversation by exchanging puns:

> *Bob*: 'The cops arrested a streaker yesterday.'
> *Rob*: 'Could they pin anything on him?'
> *Bob*: 'Naw. The guy claimed he was hauled in on a bum wrap.'
> *Rob*: 'You'd think the case was supported by the bare facts.' (Gruner 1997, 136)

However, with this example, it seems that Gruner is confusing a game centred on making puns with punning itself being a game. Simply because people engage in a competitive game in which the aim is to produce more puns than your opponent does not mean that what makes a pun amusing is that it is part of a competitive game. Games can be centred on all sorts of linguistic phenomena, but this does not lend support to the idea that those phenomena are necessarily competitive. Hence, there is no real evidence for Gruner's claim that innocuous wordplay is always competitive.

Ultimately, Gruner's superiority theory continues to face counter-examples from innocuous humour like the following:

> Why was the scarecrow given an award? Because he was outstanding in his field.

With such innocuous humour, one experiences amusement without a sense of winning or playful aggression. Gruner (1997) tries to provide explanations of how various cases of innocuous humour contain some sense of winning, but his explanations inevitably become contrived. For

example, in one case, he examines a cartoon in which a plumber has water squirting out his ear because he plugs a hole with his finger. Gruner (1997, 162) explains that the cartoon gives one a sense of winning and playful aggression when one considers the damaging effect the water would have on the plumber's brain cells. Such contrived explanations indicate that Gruner is not really able to account for innocuous humour in a satisfying way.

Besides innocuous humour, Gruner's superiority theory also faces problems from self-deprecatory humour. If all amusement involves a sense of winning, then one should not be able to be amused at oneself, since one cannot 'win' over oneself. But yet there are cases in which the amused subject and the amusing object are one and the same thing. Noël Carroll (2014, 11–12) gives the following example:

> We often laugh at ourselves precisely at the moment when we find that we are in the process of doing something foolish, such as putting sugar instead of parmesan cheese on our spaghetti when we are tired. In that case, we are not laughing at some former self but at the guy with the spaghetti in his mouth.

Self-deprecatory humour is a problem for Gruner because his theory rules it out as impossible. In his initial response to the problem, Gruner follows Thomas Hobbes (1999) and points out that his theory permits amusement towards some past versions of oneself. However, this does not solve the problem for when one is amused at one's present self, as in Carroll's spaghetti example.

In an attempt to avoid counter-examples like Carroll's, Gruner (1997) proposes a distinction between different parts of oneself. For example, when one is lazy, one can be amused at the part of oneself that is energetic, and when one is energetic, one can be amused at the part of oneself that is lazy. However, this distinction is problematic. Presumably, Gruner intends for the amusement ascribed to partial identities to be full rather than partial amusement, otherwise he would not be avoiding the counter-examples. But then partial identities should be able to be amused at themselves too, for example, the lazy part of oneself being amused at the lazy part of oneself. But this contradicts Gruner's theory which prohibits the

subject and object of amusement being one and the same thing. Thus, if Gruner is to avoid the problem of self-deprecatory humour, then he must provide a credible account of what partial identities are and why they differ from whole identities in not being able to be amused at themselves.

1.3 Key Insight

Although superiority is neither necessary nor sufficient for amusement, feelings of superiority do play a key role in many cases of amusement. For example, consider the *Friends* episode where Joey thinks he can speak French with gibberish phrases such as 'Je da flup flee!' and 'Deu mu blah!', or consider Constable Dogberry's malapropisms in *Much Ado About Nothing* such as 'Our watch, sir, have indeed comprehended two auspicious persons' (Shakespeare 2009, 63). Here Joey's and Dogberry's stupidity causes one to experience both amusement and feelings of superiority. Hence, superiority theories do offer some insight, particularly on the relationship between amusement and aggression.

Some experiments have suggested a positive correlation between aggression and amusement. For example, Clark McCauley et al. (1983) conducted an experiment in which participants rated a series of cartoons on scales of aggressiveness and amusingness. The results showed a significant positive correlation between the two ratings given by participants from across various age, social and economic groups. Similarly, Jeffery Mio and Arthur Graesser (1991) had participants rate the amusingness of a series of metaphors, some of which were disparaging and some of which were complimentary. The results showed that the disparaging metaphors received higher amusingness ratings than the complimentary ones. These experiments seem to suggest that amusement and aggression have a positive linear relationship, that is, any increase in one involves a corresponding increase in the other.

However, further experiments have indicated that the relationship between amusement and aggression resembles a bell-curve where the highest degree of amusement is associated with an optimal degree of aggression and lower degrees of amusement are associated with higher or lower degrees of aggression. For example, Dolf Zillmann et al. (1974)

showed participants a series of cartoons which directed varying degrees of aggression towards political figures. They found that cartoons with a moderate degree of aggression received higher amusingness ratings than cartoons with a low or high degree of aggression. Likewise, Dolf Zillmann and Jennings Bryant (1974) conducted an experiment in which participants witnessed an aggressor receiving a humorous retaliation. The results showed that participant amusingness ratings were highest when the retaliation was moderate as opposed to low or high. Similarly, Bryant (1977), Thomas Herzog and Joseph Karafa (1998), and Herzog and Maegan Anderson (2000) also find support for a bell-curve relationship between amusement and aggression.

In addition to these experiments, it seems intuitive that amusement and aggression would have a bell-curve relationship, since one's amusement often increases with aggression but then decreases when aggression 'crosses the line' and becomes too offensive. Hence, I propose the following key insight of superiority theories:

> **Aggression Bell-curved:** If subject *S* is amused by object *O*, then there is an optimal degree of aggression below which increasing aggression increases *S*'s amusement and above which increasing aggression decreases *S*'s amusement.

For example, stand-up comedian Daniel Tosh publicly apologised for making a rape joke after a blogpost accusing him of threatening an audience member was widely shared online.[2] In the blogpost, the audience member wrote that after Tosh told a series of rape jokes, she called out 'Actually, rape jokes are never funny!' To which Tosh replied:

> Wouldn't it be funny if that girl got raped by like, five guys right now? Like right now? What if a bunch of guys just raped her …

Despite Tosh being known for his deliberately offensive style of comedy, the audience member and many blogpost readers felt that this joke 'crossed the line' and, as per Aggression Bell-curved, was too aggressive to be amusing.

[2] http://breakfastcookie.tumblr.com/post/26879625651/so-a-girl-walks-into-a-comedy-club

In this section, I have assessed superiority theories and extracted Aggression Bell-curved. In the next section, I assess release theories to extract a key insight.

2 Release Theories

In this section, I assess release theories. In Subsection 2.1, I assess Early Release Theory from Chapter 3, in Subsection 2.2, I assess a modern release theory and, in Subsection 2.3, I extract a key insight from release theories.

2.1 Early Release Theory

Early Release Theory from Chapter 3 proposes that the release of accumulated mental energy is both necessary and sufficient for amusement. Counter-examples to the sufficiency of release are cases of release without amusement, such as excitedly driving to meet a friend at the airport only to discover that their flight was cancelled. Presumably, one's sigh of disappointment could be described as a release of mental energy in the same way that release theorists describe the laughter of amusement. Hence, release is not sufficient for amusement.

For a counter-example to the necessity of release, consider the following line from P. G. Wodehouse (2008, 9):

> I could see that, if not actually disgruntled, he was far from being gruntled.

In the case of placid humour like this, there seems to be neither the accumulation of mental energy nor the release of mental energy. Indeed, when Sigmund Freud (2014, 136) suggested that amusement at some jokes may derive purely from cognitive 'joke-work' and not from any affective elements, he may have been conceding that placid humour presents counter-examples of amusement without release.

Release theorists may attempt to defend the necessity of release by arguing that even for placid humour one releases some small amount of mental energy. However, explanations of how exactly this mental energy is released inevitably become contrived. Perhaps release theorists might argue that wordplay like Wodehouse's presents one with an incongruity and the resolution of this incongruity involves the release of some small amount of mental energy. However, although it is clear that some small amount of energy is *expended* in resolving an incongruity, it is not at all clear that this constitutes a *release* of energy.

This point leads onto the fundamental problem with release theory—that claims of mental energy being accumulated and released are based on an outdated theory of mind. This outdated theory postulates mental energy that behaves like steam which requires release when it accumulates pressure. From the perspective of contemporary theories of mind, such postulations are at best metaphorical. There is little scientific support for the claim that there is such a thing as mental energy, much less that it can be accumulated and released. Even on a charitable reading, 'mental energy' is a dubious concept.

In defence, release theorists may argue that the postulations of release theory are metaphorical rather than literal. Ludwig Wittgenstein (1966, 44) makes a similar point when he says that Freud's theory of mind should abandon its scientific pretensions rather than embrace them, so then Freud's postulations would be assessed on whether they are experientially accurate rather than whether they are scientifically accurate. Similarly, release theorists may argue that if release theory accurately captures the experience of amusement, then it is irrelevant whether it is based on an outdated theory of mind (May 2015, 32). However, this book has the scientific aim of giving a literal definition of amusement—not a metaphorical one. Thus, for my purposes, arguing that the postulations of release theory are metaphorical amounts to conceding that it is unacceptable. Overall then, it seems that release is neither necessary nor sufficient for amusement.

2.2 Modern Release Theory

Modern release theories focus on *arousal* as a basic variable instead of the outdated postulation of mental energy.[3] In particular, Daniel Berlyne (1960, 1969, 1972) proposed that one's degree of amusement is determined by one's degree of arousal such that amusement has a bell-curve relationship with arousal. This would mean that the highest degree of amusement is associated with an optimal degree of arousal and lower degrees of amusement are associated with higher or lower degrees of arousal.[4]

Berlyne (1960) proposes two mechanisms that govern the degree of arousal during a joke: the 'arousal-boost mechanism' and the 'arousal-jag mechanism'. The arousal-boost mechanism operates during the set-up of a joke and increases one's degree of arousal from low to optimal. When the degree of arousal then increases from optimal to high, one's degree of arousal becomes less pleasant and the arousal-jag mechanism takes over from the arousal-boost mechanism. The arousal-jag mechanism operates during the punch-line of a joke and decreases one's degree of arousal from high to optimal. According to Berlyne, this release and return to optimal arousal results in an increase in pleasantness which one experiences as amusement.

To examine Berlyne's release theory, Michael Godkewitsch (1976) conducted experiments in which the heart rate and skin conductance (sweating) of participants was measured during the set-up and punch-line of jokes. The results showed that the jokes which participants gave the highest amusingness ratings were associated with higher increases of heart rate during the punch-line and with higher increases of skin conductance during both the punch-line and the set-up. Taking heart rate and skin conductance as measures of arousal, Godkewitsch's results were taken to support Berlyne's arousal-boost mechanism but not his

[3] Arousal is the psychological and physiological state of being alert, awake and attentive. Physical indicators of arousal include increased heart rate, increased respiration rate and increased skin conductance (sweating).

[4] Daniel Berlyne based his release theory on the 'optimal arousal theory' of Donald Hebb (1955), according to which there is an optimal degree of arousal at which pleasantness is highest and to increase or decrease arousal would result in a decrease in pleasantness.

arousal-jag mechanism. Rather than the punch-line decreasing the degree of arousal to optimal, as per the arousal-jag mechanism, Godkewitsch's results indicated that the punch-line increased the degree of arousal beyond that reached in the set-up.

Godkewitsch's (1976) results were replicated in other experiments where participants were shown humour whilst measuring physical indicators of arousal (McGhee 1983). James Averill (1969) measured the heart rate and skin conductance of participants watching comedy films and found both to be positively correlated with amusement. Similarly, Ronald Langevin and Hy Day (1972) showed participants cartoons whilst measuring their heart rate and skin conductance and found both to be positively correlated with participant amusingness ratings. Likewise, Paul Foster et al. (2002) found that recalling an amusing experience caused participants to have increased heart rates and skin conductance, and Nicole Giuliani et al. (2008) found that participants had an increased respiration rate and heart rate when watching comedy films rather than neutral films. In general, experiments have not shown support for Berlyne's release theory but rather have shown support for a positive linear relationship between amusement and arousal in which any increase in one involves a corresponding increase in the other.

2.3 Key Insight

Although release is neither necessary nor sufficient for amusement, arousal does play a key role in many cases of amusement. For example, consider the following joke:

> What do you call a black man flying a plane? The pilot.

In this joke, there may not be a release of accumulated mental energy, but certainly the arousal generated by the joke's racial content contributes to one's amusement, even though the arousal is generated via anxiety. Hence, release theories do offer some insight, particularly on the relationship between amusement and arousal.

As outlined in the previous subsection, several experiments have shown that increases in amusement are positively correlated with increases in arousal (Averill 1969; Langevin and Day 1972; Godkewitsch 1976; McGhee 1983; Foster et al. 2002; Giuliani et al. 2008). Conversely, Stanley Schachter and Ladd Wheeler (1962) conducted an experiment which showed that increasing arousal serves to increase amusement. Participants were shown a slapstick film after having been injected with either an arousal-increasing drug, an arousal-decreasing drug or a placebo. The results showed that arousal-increased participants expressed the highest degree of amusement and provided the highest amusingness ratings compared to the placebo participants, who in turn expressed a higher degree of amusement and provided higher amusingness ratings compared to the arousal-decreased participants. Hence, amusement was found to increase with arousal, even when arousal was artificially increased by drug injection.

Further experiments have also shown that increasing arousal serves to increase amusement, regardless of how the increase in arousal is achieved. For example, Arthur Shurcliff (1968) elicited different levels of anxiety in participants by informing them that they were required to either hold a docile rat (low anxiety), use a small syringe on a normal rat (moderate anxiety), or use a large syringe on a hostile rat (high anxiety). However, when participants opened the cage, they discovered that the rat was a plastic toy. The results showed a strong positive correlation between anxiety ratings before the discovery and amusingness ratings after the discovery. Likewise, Thomas Kuhlman (1985) found that participants rated jokes as more amusing when they were in the middle of an exam as compared to just before taking an exam or in a normal classroom setting. Hence, experiments indicate that increasing arousal even via anxiety serves to increase amusement.

Joanne Cantor et al. (1974) investigated whether an increase in arousal from other negative emotions also can serve to increase amusement. They assigned participants to one of four groups: low arousal by negative content, low arousal by positive content, high arousal by negative content or high arousal by positive content. Low arousal by negative content was a newspaper article reporting countryside pollution, low arousal by positive content was a newspaper article reporting countryside flourishing,

high arousal by negative content was a novel extract describing a torture scene, and high arousal by positive content was a novel extract describing a sex scene. All participants subsequently rated the amusingness of the same series of jokes and cartoons. The results showed that high arousal participants gave much higher amusingness ratings than low arousal participants, regardless of whether arousal was increased by positive or negative content.

In addition to these experiments, it seems intuitive that amusement and arousal would have a positive linear relationship since amusement is often increased by arousal-increasing content, such as aggressive or sexual content, provided that it does not 'cross the line'. Hence, I propose the following key insight of release theories:

> **Arousal Linear:** If subject *S* is amused by object *O*, then increasing *S*'s arousal increases *S*'s amusement.[5]

Arousal Linear suggests that not only can amusement be increased by arousal-increasing content which is aggressive or sexual, but also by arousal-increasing content which is disgusting or perilous. For example, in *Peep Show* when Jeremy eats the under-cooked leg of a dead dog, the disgusting content increases one's arousal and thereby one's amusement. Likewise, one's amusement is increased by arousal-increasing perilous content when Harold Lloyd hangs on the minute hand of a large clock outside of a skyscraper in *Safety Last*.

In this section, I have assessed release theories and extracted Arousal Linear. In the next section, I assess play theories to extract a key insight.

3 Play Theories

In this section, I assess play theories. In Subsection 3.1, I assess Early Play Theory from Chapter 3, in Subsection 3.2, I assess a modern play theory and, in Subsection 3.3, I extract a key insight from play theories.

[5] This claim provides a response to Lauren Olin's (2016, 341) question 'Why are sexual and otherwise arousing themes so dominant in humor?' which she identifies as one of the key questions for a theory of humour to answer.

3.1 Early Play Theory

Early Play Theory from Chapter 3 proposes that being in a state of play is both necessary and sufficient for amusement. Counter-examples to the sufficiency of play are cases of play without amusement. For example, when one plays a board game, a sports match or a musical instrument, one may be in a constant state of play without being constantly amused. Johan Huizinga (2008, 6) rightly says that in most cases 'play is not comical for either the player or public'. Hence, play is not sufficient for amusement.

However, it seems intuitively acceptable that being in a state of play is necessary for amusement because amusement always seems to occur during periods of playful relaxation. Even when amusement occurs in a working environment, it is during a moment of playful relaxation rather than focussed work. Play theorists often support this observation with evolutionary explanations, for example, Matthew Gervais and David Wilson (2005) characterise amusement as evolving from social play between primates during brief periods of safety and satiation. These evolutionary explanations are supported by observations that ape laughter occurs during playful activities such as tickling, chasing or wrestling (Darwin 1998; van Hooff 1972; Preuschoft and van Hooff 1997; van Hooff and Preuschoft 2003; Ross et al. 2014).[6] In particular, Jan van Hooff and Signe Preuschoft (2003, 267) describe the 'relaxed open-mouthed expression' in apes which occurs during playful aggression, whereas during real aggression the mouth is tense and prepared to bite.

Since ape laughter occurs during a social context of play, play theorists argue that ape laughter functions as a social indicator that prevents playful activity from being mistaken for serious activity. Moreover, there is evidence to indicate that human and ape laughter share the same evolutionary origin and so serve the same social function (van Hooff 1972; Gervais and Wilson 2005). Hence, play theorists argue, human laughter must also function as a play signal and thereby play is a necessary condition for laughter and amusement.

[6] Jaak Panksepp and Jeff Burgdorf (2000, 2003) have shown that even rats emit ultrasonic vocalisations during tickling which are analogous to primitive human laughter.

This characterisation of laughter as a social indicator of playful activity would explain why laughter is a fundamentally social phenomenon. For example, Robert Provine (2004) estimates that people are up to 30 times more likely to laugh when in a group. Similarly, Tatiana Vlahovic et al. (2012) found that people laugh more if they can see and hear another person compared to voice and text interactions, even if the other person is on a computer screen. Jane Warren et al. (2006) conducted an fMRI study which showed that the sound of laughter triggers brain activity associated with the facial muscles used in laughter, suggesting that laughter is socially contagious. In addition, characterising laughter as a social indicator would also explain why the private experience of amusement is connected with the public display of laughter in the way that it is.

However, Noël Carroll (2014, 43) raises the following counter-example to play as necessary for amusement:

> How are we to define [play]? One temptation is to stipulate that play is disengaged from life—that it is not serious. But if that is what is meant by play then humour is not necessarily play … since some (much) humour, like satire, is engaged and serious.

Carroll argues that if one defines 'play' as 'disengaged from life' or 'not serious', then the necessity of play has counter-examples because satire can be amusing while also being engaging and serious. Hence, one requires a better definition of 'play' for play to be necessary for amusement.

I would potentially argue, contra Carroll, that satire is successively amusing and serious rather than simultaneously amusing and serious.[7] However, regardless, Carroll is right that a better definition of play is required. The ordinary concept of play is too vague and needs to be made more precise in order to better capture the affective component of amusement. This refining of the concept of play is exactly what modern play theories aim to do.

[7] Dieter Declercq (2018) defines satire as a genre which intends to both critique and entertain.

3.2 Modern Play Theory

Michael Apter (1982, 2001, 2013) gives a modern play theory which more precisely defines the play state as the 'paratelic state'.[8] According to Apter, one is in the paratelic state when means are of primary concern and goals are of secondary concern. For example, when someone plays the piano sheer enjoyment. Conversely, one is in the opposing 'telic state' when goals are of primary concern and means are of secondary concern. For example, when someone plays piano in order to pass a music exam. Apter (2001, 40) offers the following summary:

> In the telic state, the goal is of overriding importance, with the means being chosen in the attempt to achieve the goal. In the paratelic state, the ongoing behavior and experience are of paramount importance, with any goals being seen as ways of facilitating or enhancing the behavior or experience.

To describe these two states, Apter introduces the words 'telic' and 'paratelic' from the Greek words *telos* and *para* meaning 'goal' and 'alongside'.[9]

To illustrate the difference between the telic and paratelic states, Apter (1982, 6–7) gives the example of two drivers speeding down a motorway, one doing so because they have to reach a particular destination by a particular time whilst the other simply because they enjoy doing so. He explains that 'the behavior of the two drivers may be identical, but the feelings and meanings associated with the behavior are entirely different' (Apter 1982, 6–7). The telic and paratelic states are then similar but not equivalent to seriousness and playfulness. It is possible to be both telic and playful, such as when a professional footballer plays a match with their career in mind. Conversely, it is possible to be both paratelic and

[8] Contemporary support of play theory can also be found in John Morreall's (2009, 101–110) claim that humour involves the playful disengagement of sincere actions and language. Similarly, Victor Raskin (1985, 100–101) contrasts the 'non-bona-fide mode of communication' in humour with 'the earnest, serious, information-conveying mode of verbal communication'.

[9] Apter (1982, 2001, 2013) calls his theory the 'reversal theory' because one can 'reverse' between the different states he describes. The reversal theory of amusement has elements of a superiority, incongruity, release and play theory.

serious, such as when a board game enthusiast meticulously engages with complicated rules. Hence, Carroll's (2014, 43) counter-example from the previous subsection no longer applies because one can seriously engage with satire whilst still being in the paratelic state.

The paratelic state is primarily defined as a non-goal-directed state but, according to Apter, this also means that the paratelic state is a non-threatened state. Apter (2001, 27) argues that if one feels threatened, then one inevitably becomes directed towards reducing that threat and thereby switches into a goal-directed state. So being in a non-threatened state is an inevitable consequence of being in a non-goal-directed state. As a result, when in the paratelic state one will 'create a small and manageable private world … into which the outside world of real problems cannot properly impinge' and 'experience the world through a 'protective frame', feeling safe from danger or serious consequences' (Apter 1991, 14; Apter and Desselles 2014, 641).

Like Berlyne, Apter uses arousal as a basic variable of his theory. But, unlike Berlyne, Apter (1982, 2001, 2013) proposes that arousal is experienced differently in the paratelic state compared to the telic state. In the telic state, low arousal is experienced as relaxation and preferred to high arousal which is experienced as anxiety. Contrastingly, in the paratelic state, high arousal is experienced as excitement and preferred to low arousal which is experienced as boredom. This is how people can enjoy arousal-increasing activities such as bungee jumping or horror films which would elicit anxiety in the telic state.

According to Apter (1982), amusement occurs in the paratelic state and so increasing the degree of arousal increases the degree of amusement. This is why arousal-increasing content which is aggressive or sexual can serve to increase amusement, and why even arousal-increasing content which is disgusting or perilous can also increase amusement. Apter and Mitzi Desselles (2014, 641) explain as follows:

> The trick of humor is to remain within the protective frame when presented with arousing material. The higher the arousal is under these conditions, the funnier the situation will seem to be—hence, the frequent use of sexual, violent, racist, religious, personal, and other arousing content. Such content must not, however, destroy the protective frame.

So, as per Arousal Linear, Apter's play theory proposes that any increase in arousal results in a corresponding increase in amusement, provided that it does not impinge on the paratelic state.

3.3 Key Insight

Although play is not sufficient for amusement, refining the ordinary concept of play may make play necessary for amusement. After all, play does have a key role in many cases of amusement. For example, consider the following quip from Groucho Marx:

> I never forget a face, but in your case I'll make an exception.

This quip may be considered malign and unamusing when taken seriously but is considered benign and amusing when taken playfully. Hence, play theories do offer some insight, particularly on the relationship between amusement and the paratelic state. For instance, Sven Svebak and Apter (1987) found that presenting participants with humour would induce the paratelic state even for participants disposed to the telic state.

As outlined in the previous subsection, the paratelic state is both a non-goal-directed state and a non-threatened state, so to claim that the paratelic state is necessary for amusement is to claim that both a non-goal-directed state and a non-threatened state are necessary for amusement. The claim that a non-goal-directed state is necessary for amusement finds support in Roger Scruton's (1982, 211) observation that amusement is 'not a motive to action (it does not regard its object as the focus of any project or desire)' and John Morreall's (2009, 70) statement that amusement involves a 'kind of appreciation in which we perceive or contemplate something for the satisfaction of the experience itself, not in order to achieve something else'.

The necessity of a non-goal-directed state is also supported by experiment. Recall Göran Nerhardt's (1970, 1976) weight lifting experiments from Chapter 4 in which participants expressed amusement upon lifting an unexpectedly heavy or light weight. Nerhardt (1976) describes how he initially conducted the experiments at a train station under the pretence of a consumer survey which asked passengers to lift a series of suitcases.

However, unlike the laboratory experiments, train passengers did not express amusement upon lifting an unexpectedly heavy or light suitcase. Nerhardt (1976, 56) explains that participants were likely inhibited by their 'motivational set to perform', that is, their goal-directed state to successfully complete the consumer survey.

Robert Wyer and James Collins (1992) describe similar results when participants read a series of stories either in order to rate their amusingness or read them normally, after which all participants were asked to rate the amusingness of the stories. The results showed that the participants who read the stories with the goal of rating their amusingness actually rated the stories less amusing than those participants who read the stories normally. Like in Nerhardt's experiment, participants who were given a specific goal were likely inhibited by being in a goal-directed state, even when this goal was to provide amusingness ratings.

The claim that a non-threatened state is necessary for amusement finds support in many disciplines. Evolutionary biologists Matthew Gervais and David Wilson (2005, 414) state that laughter amongst primates would have 'inherently indicated that a situation was safe and conducive to positive emotion and social play'. Neuroscientist Vilayanur Ramachandran (1998) proposes a 'false-alarm' theory in which amusement consists of a gradual build-up of expectation followed by a non-threatening violation. Behaviour scientists Peter McGraw and Caleb Warren (2014, 75–76) specify that, to be amusing, something 'needs to seem OK, safe, acceptable, or, in other words, benign'. Psychologist Mary Rothbart (1977) states that amusement only occurs in a setting that is 'safe'. Philosopher Noël Carroll (2014, 29) proposes that 'in order for comic amusement to obtain, the percipient must feel unthreatened'. Thus, the necessity of a non-threatened state for amusement is supported across many disciplines.

In addition to this support, it seems intuitive that amusement requires the paratelic state since amusement is often increased by arousal-increasing content until that content 'crosses the line' and thereby induces a goal-directed or threatened state. Hence, I propose the following key insight of play theories:

Paratelic Necessary: If subject *S* is amused by object *O*, then *S* is in the paratelic state.

Consider the following joke as an example:

> A posh boy meets poor girl, who asks him 'Where are you from?' The boy says, 'I come from a place where we know not to end a sentence with a preposition.' To which the girl replies 'Oh, beg my pardon. Where are you from, arsehole?'

This joke illustrates Paratelic Necessary because, first, one is in a non-goal-directed state as one does not have any specific goal while reading the narrative and, second, one is in a non-threatened state because the recipient of aggression is represented as deserving of it. Also, the shocking language serves to increase one's arousal and thereby amusement when one is in the paratelic state. Another example of this dynamic is the episode of *Curb Your Enthusiasm* in which Larry publishes an obituary where the phrase 'beloved aunt' is misprinted as 'beloved cunt'. Here less shocking language would have been less arousing and thereby less amusing.

In this section, I have assessed play theories and extracted Paratelic Necessary. In the next section, I combine Aggression Bell-curved, Arousal Linear and Paratelic Necessary to define the affective component of amusement.

4 The Affective Component of Amusement

I propose the following definition of the affective component of amusement by combining Aggression Bell-curved, Arousal Linear and Paratelic Necessary:

> **Affective Component of Amusement (ACoA):** If subject *S* is amused by object *O*, then:
> **(1)** *S* is in the paratelic state.
> **(2)** Increasing *S*'s arousal increases *S*'s amusement.

Paratelic Necessary is included in ACoA condition 1 (ACoA1) and Arousal Linear is included in ACoA condition 2 (ACoA2). For Aggression

Bell-curved, ACoA1 and ACoA2 jointly capture the bell-curve relationship between amusement and aggression. This is because, as per ACoA2, initially increasing aggression increases arousal and thereby increases amusement but, as per ACoA1, increasing aggression too much induces a threatened state and thereby decreases amusement. For example, consider a controversial stand-up comedian who starts off amusing but then 'crosses the line' and becomes unamusing as a result.

Considering diverse examples from Chapter 4 will help to demonstrate the wide scope of ACoA. Recall Buster Keaton's slapstick gag in which he narrowly misses being squashed by a falling house-front. Recall the stand-up comedy of Don Rickles, who insults his audience to their face. Recall Lewis Carroll's nonsense poem 'Jabberwocky'. Recall the joke in which a moron asks to have their pizza cut into fewer slices because they are on a diet. All these examples satisfy ACoA2 because they all contain some arousal-increasing content: Keaton's gag contains peril, Rickles' stand-up contains aggression, Carroll's verse contains absurdity and the moron joke contains superiority.

All these examples also satisfy ACoA1 because one is neither goal-directed nor threatened at the exact moment of amusement. In terms of being non-goal-directed, one's attention is not directed towards anything besides the gag, stand-up, poem or joke and one's motivations for directing it thus are solely to do with amusement and not with any goal beyond amusement. In terms of being non-threatened, there is no threat involved in Carroll's poem or the moron joke, and any threat involved in Keaton's gag or Rickle's stand-up disappears when one realises that Keaton does not get squashed and that Rickles' does not mean what he says. From slapstick to nonsense to insults to jokes, it seems that the scope of ACoA is wide enough to cover almost any object of amusement.

Counter-examples to ACoA are cases of amusement which either do not satisfy ACoA1 or do not satisfy ACoA2, and those counter-examples which do not satisfy ACoA1 can either be cases of amusement in a goal-directed state or cases of amusement in a threatened state. I consider all these different counter-examples in the following critical assessment of ACoA.

A potential counter-example of amusement in a goal-directed state is when a car driver is amused whilst remaining directed towards the goal of

driving the car. It may seem that, contra ACoA1, the driver is both amused and in a goal-directed state. However, I argue that if the driver was required to perform a demanding task like changing lanes or swerving evasively, then they could not sustain their amusement. This is because being directed towards *conscious* goals like changing lanes is incompatible with amusement, whereas *unconscious* goals like inertial driving are compatible. After all, unconscious goals must be compatible with amusement since one can be amused during unconscious actions like breathing or blinking. Thus, I add as a caveat to ACoA1 that the subject can be in the paratelic state whilst nonetheless directed towards unconscious goals.

Another potential counter-example of amusement in a goal-directed state is when a tennis player is amused with self-satisfied delight at skilfully scoring a point. In such cases, it may seem that the player is both amused and in a goal-directed state. However, I argue that here the amusement and goal-directed state occur successively rather than simultaneously. The player is in a goal-directed state while scoring the point and in a state of amusement after scoring the point. But the concentration required to skilfully score the point demands that these two states do not overlap.

A final potential counter-example of amusement in a goal-directed state is complex humour requiring cognitive effort such as the following mathematical joke:

> What is the integral of 1/*cabin*? Log cabin. Or houseboat, if you include the *C*.

This joke requires cognitive effort and specialist knowledge to work out that, since the integral of '1/*x*' is '*log*(*x*) + *C*', the integral of '1/*cabin*' is '*log*(*cabin*) + *C*'. It may seem that the cognitive effort required means that this joke elicits amusement in a goal-directed state. However, I argue that one is not amused and goal-directed at the same time. Depending on how conscious one's cognitive efforts are, one is either successively directed towards a conscious goal and then amused or simultaneously amused and directed towards an unconscious goal. But there is no point at which one is both amused and directed to a conscious goal.

A potential counter-example of amusement in a threatened state is black comedy which deliberately depicts suffering rather than avoiding it. For example, consider the following joke:

Doctor: 'You have cancer and you have Alzheimer's.'
Patient: 'At least I don't have cancer.'

It may seem that amusement towards black comedy involves being in a threatened state because of the suffering depicted. However, I argue that this misunderstands the nature of black comedy, which is based on a distinction between fact and fiction. The suffering depicted in black comedy serves to increase amusement via arousal only because one acknowledges that the suffering depicted is fictional rather than factual. There are many people who would be amused by the above joke but who would, of course, not be amused witnessing a real terminal diagnosis. The suffering in black comedy is fictional suffering and it is by acknowledging this that one is able to render it non-threatening and thereby amusing.

Of course, there can be particularly gratuitous depictions of suffering in black comedy that 'cross the line'. But these cases are no longer counter-examples to ACoA1 because one is no longer amused once the depictions 'cross the line'. Exactly what depictions 'cross the line' depends on one's attitudes but, whatever one's attitudes, when depictions 'cross the line' one switches to the telic state in which high arousal is experienced as unpleasant anxiety. Hence, such cases are threatening and non-amusing rather than threatening and amusing.

A potential counter-example of amusement which does not satisfy ACoA2 is when something negatively shocking happens whilst one is amused. For example, consider the scene in *Reservoir Dogs* when Mr Blonde does an amusing little dance immediately before slashing the policeman's face with a razor blade. It may seem that, contra ACoA2, there is an increase in arousal whilst one is amused but this arousal increase does not serve to increase amusement, rather Mr Blonde's attack decreases amusement. However, I argue that Mr Blonde's attack changes the scene to become threatening and so one switches to the telic state in which high arousal is experienced as unpleasant anxiety. Hence, as per

ACoA1, the scene is not a counter-example but a case of non-amusement and increased arousal.

In this section, I have combined Aggression Bell-curved, Arousal Linear and Paratelic Necessary to define ACoA. In the next section, I summarise the key claims of this chapter.

5 Chapter Summary

In this chapter, I have defined the affective component of amusement by critically assessing superiority theories, release theories and play theories. In Section 1, I assessed superiority theories and extracted the following:

> **Aggression Bell-curved:** If subject *S* is amused by object *O*, then there is an optimal degree of aggression below which increasing aggression increases *S*'s amusement and above which increasing aggression decreases *S*'s amusement.

In Section 2, I assessed release theories and extracted the following:

> **Arousal Linear:** If subject *S* is amused by object *O*, then increasing *S*'s arousal increases *S*'s amusement.

In Section 3, I assessed play theories and extracted the following:

> **Paratelic Necessary:** If subject *S* is amused by object *O*, then *S* is in the paratelic state.

In Section 4, I combined Aggression Bell-curved, Arousal Linear and Paratelic Necessary to yield the following:

> **Affective Component of Amusement (ACoA):** If subject *S* is amused by object *O*, then:
> **(1)** *S* is in the paratelic state.
> **(2)** Increasing *S*'s arousal increases *S*'s amusement.

In Chapter 6, I complete Theory of Amusement (ToA) from Chapter 2 by combining Cognitive Component of Amusement (CCoA) from Chapter 4 with ACoA.

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6

A Theory of Amusement

Abstract In this chapter, I complete Theory of Amusement (ToA) from Chapter 2. In Section 1, I complete ToA by combining the Cognitive Component of Amusement (CCoA) from Chapter 4 with the Affective Component of Amusement (ACoA) from Chapter 5 and, in Section 2, I briefly outline some techniques for increasing amusement by increasing arousal. Finally, in Section 3, I summarise the key claims of this chapter and of this book.

Keywords Amusement • Cognitive • Affective • Arousal

1 Combining the Cognitive and Affective Components of Amusement

In this section, I complete Theory of Amusement (ToA) from Chapter 2 by combining the Cognitive Component of Amusement (CCoA) from Chapter 4 with the Affective Component of Amusement (ACoA) from Chapter 5. In Subsection 1.1, I outline cognitive dissonance theory to

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connect CCoA and ACoA, in Subsection 1.2, I complete ToA by combining CCoA and ACoA and, in Subsection 1.3, I critically assess the completed ToA.

1.1 Cognitive Dissonance

In completing ToA, I argue that what is central to *engendering* amusement is that the cognitive component of amusement *itself* increases arousal as opposed to arousal being increased by some other means, such as arousal-increasing content or arousal-increasing drugs. This means that the central connection between the cognitive and affective components of amusement is not merely the conjunction of the cognitive component and increased arousal, but rather the causal chain of increased arousal *via* the cognitive component. It is then the occurrence of this causal chain in the paratelic state that engenders amusement. This claim echoes Michael Clark's (1970, 28–29) specification that 'the apparent incongruity is not enjoyed just for some ulterior reason' and Noël Carroll's (2014, 36) specification that 'with comic amusement the pleasure focuses upon the incongruity itself'.

In particular, I argue that the cognitive component of amusement *inherently* increases arousal—a claim which has been made previously by Daniel Berlyne (1960) and Michael Apter (1982). According to Berlyne, the cognitive component of amusement increases arousal because it motivates opposing processes in the nervous system. According to Apter, the cognitive component of amusement increases arousal because it introduces an element of puzzle or paradox. However, the reason I propose is that activating two inconsistent interpretations via unsound reasoning, as per CCoA, serves to create *cognitive dissonance*.

The theory of cognitive dissonance states that any two cognitions are either 'relevant' or 'irrelevant' to one another and if two cognitions are relevant to one another, then they are either 'consonant' or 'dissonant' (Festinger 1957; Harmon-Jones and Mills 1999; Harmon-Jones and Harmon-Jones 2007).[1] Two cognitions are consonant when one of the cognitions follows from the other. For example, the belief that Smith is a

[1] In the context of cognitive dissonance theory, a 'cognition' is an attitude, belief or behaviour.

bachelor is consonant with the belief that Smith is unmarried. In contrast, two cognitions are dissonant when the negation of one of the cognitions follows from the other. For example, the belief that Smith is a bachelor is dissonant with the belief that Smith is married. Finally, two cognitions are irrelevant to one another when they are neither consonant nor dissonant. For example, the belief that Smith is a bachelor is irrelevant to the belief that snow is white. Given these definitions from cognitive dissonance theory, it becomes clear that the cognitive component of amusement, as characterised by CCoA, serves to create cognitive dissonance. This is because if two interpretations are inconsistent, then there is at least one sentence to which one interpretation assigns a positive truth-value and the other assigns a negative truth-value. Hence, there are two cognitions where the negation of one follows from the other, that is, there is cognitive dissonance.

Experiments have shown that once cognitive dissonance is created, it serves to increase arousal (Kiesler and Pallak 1976). For example, Robert Croyle and Joel Cooper (1983) conducted experiments in which they measured the skin conductance of participants writing essays in which they expressed attitudes contrary to their own. Participants wrote the essays either under high-choice conditions, in which they were instructed that the essay writing was optional, or low-choice conditions, in which they were instructed that the essay writing was mandatory. Earlier experiments had shown that participants would experience lower cognitive dissonance in the low-choice condition because their essay writing would be rendered more consonant by the fact that it was mandatory (Linder et al. 1967). Croyle and Cooper found that participants in the high-choice condition had a higher degree of skin conductance, suggesting that cognitive dissonance increases arousal.

Similar essay writing experiments were conducted by Roger Elkin and Michael Leippe (1986), and Mary Losch and John Cacioppo (1990) with similar results where cognitive dissonance was positively correlated with increased skin conductance. Michael Etgen and Ellen Rosen (1993) conducted experiments in which participants were led to believe that they would perform a task successfully or unsuccessfully and, after performing the task, were given fake scores which either confirmed or disconfirmed their beliefs. The results showed that disconfirmed beliefs and thereby

cognitive dissonance were positively correlated with an increase in heart rate, further suggesting that cognitive dissonance increases arousal.

Given that the cognitive component of amusement creates cognitive dissonance and that cognitive dissonance increases arousal, it then follows that the cognitive component of amusement *inherently* increases arousal. Thus, I propose that the central connection between the cognitive component of amusement, as characterised by CCoA, and the affective component of amusement, as characterised by ACoA, is the causal chain of increased arousal via cognitive dissonance. In the telic state this arousal would be experienced as anxiety but in the paratelic state this arousal is experienced as amusement.

1.2 Theory of Amusement

Given the connection of CCoA and ACoA via cognitive dissonance from the previous subsection, I combine CCoA and ACoA to complete ToA as follows:

Theory of Amusement (ToA): Subject *S* is amused by object *O* if and only if:
(1) *S* is in the paratelic state.
(2) *S* activates two inconsistent interpretations via unsound reasoning because of *O*.
(3) *S*'s arousal is increased because of (2).

Note that ToA condition 3 (ToA3) references ToA condition 2 (ToA2), which is a condition of ToA rather than a variable of ToA. This is because, as per the previous subsection, what is central to engendering amusement is that arousal is increased via cognitive dissonance. So amusement would not be engendered if *S*'s arousal was merely increased by some other means, such as arousal-increasing content or arousal-increasing drugs.

For an illustration of ToA, consider again the purported 'funniest joke in the world' from Chapter 1:

> Two hunters are out in the woods when one of them collapses. He doesn't seem to be breathing and his eyes are glazed. The other guy whips out his

> phone and calls the emergency services. He gasps, 'My friend is dead! What can I do?' The operator says, 'Calm down, I can help. First, let's make sure he's dead.' There is a silence, then a shot is heard. Back on the phone, the guy says, 'OK, now what?' (Wiseman 2015, 217)

Here ToA1 is satisfied because one is neither goal-directed nor threatened since the introduction of the narrative as a joke means that one does not take it to be a tragic report of real events. ToA2 is satisfied because one activates two inconsistent interpretations of the phrase 'make sure he's dead' via the unsound reasoning that ensuring a patient's death could possibly aid their recovery. ToA3 is satisfied because one's arousal is increased via cognitive dissonance created by activating the inconsistent interpretations. In addition, the aggressive and superiority content in the joke serves to augment the increase of one's arousal and thereby of one's amusement.

Considering diverse examples from Chapter 4 will help to demonstrate the wide scope of ToA. Recall Buster Keaton's slapstick gag in which he narrowly misses being squashed by a falling house-front. Recall the stand-up comedy of Don Rickles, who insults his audience to their face. Recall Lewis Carroll's nonsense poem 'Jabberwocky'. Recall the joke in which a moron asks to have their pizza cut into fewer slices because they are on a diet. All these examples satisfy ToA1 because one is neither goal-directed nor threatened at the exact moment of amusement.

All the examples also satisfy ToA2 and ToA3: For Keaton's gag, one activates inconsistent interpretations of the sentence 'Keaton will be squashed by the house-front' and the resulting cognitive dissonance increases one's arousal which is augmented by the perilous content. For Rickle's stand-up, the interpretations are of the sentence 'Rickles is insulting his audience' and the arousal increase from cognitive dissonance is augmented by aggressive content. For Carroll's poem, the interpretations are of the sentence 'the verse is meaningful' and the arousal increase from cognitive dissonance is augmented by absurd content. For the moron joke, the interpretations are of the sentence 'the pizza has fewer calories' and the arousal increase from cognitive dissonance is augmented by superiority content. From slapstick to insults to nonsense to jokes, it seems the scope of ToA is wide enough to cover almost any object of amusement.

1.3 Critical Assessment

ToA proposes that ToA1, ToA2 and ToA3 are individually necessary and collectively sufficient conditions for amusement. Counter-examples to the necessity of ToA1, ToA2 and ToA3 would be cases of amusement where one of the three conditions is not satisfied. However, counter-examples of this type have already been considered in Chapters 4 and 5 when defining the cognitive and affective components of amusement. Hence, in this chapter, I only consider counter-examples to the sufficiency of ToA1, ToA2 and ToA3, which are cases of non-amusement where all of the three conditions are satisfied.

One potential counter-example is tragic irony, such as the scene in *Oedipus Rex* when Oedipus marries his mother Jocasta. Here ToA1 is satisfied because one is in the paratelic state, ToA2 is satisfied because one interprets Jocasta both as Oedipus' mother and as his wife, and ToA3 is satisfied because the interpretations create cognitive dissonance that increases arousal which is augmented by the shocking content. Despite this, one is not amused but is rather aghast at the tragic irony and so the case is a counter-example to ToA. In response, I would potentially argue that it is contentious whether the two interpretations of Jocasta are indeed inconsistent. However, regardless, the counter-example does highlight that comedy and tragedy are closely-related opposites and so ToA would benefit from a caveat to distinguish comedic irony from tragic irony. Thus, I add as a caveat to ToA that amusement is a *positively valenced* mental state (Hurley et al. 2011).[2]

Another potential counter-example to ToA is the Liar Paradox, which is a philosophical paradox derived from 'liar sentences' like the following:

> This sentence is false.

The Liar Paradox arises from attempting to assign a truth-value to such liar sentences: If the liar sentence is true, then it must be false because it

[2] Mental states with a positive valence are intrinsically attractive whereas mental states with a negative valence are intrinsically aversive. For example, happiness has a positive valence and sadness has a negative valence.

states that itself is false. Conversely, if the liar sentence is false, then it must be true because it states that itself is false. Hence, the liar sentence is true if and only if it is false (Kirkham 1992, 271). It seems then that the liar sentence satisfies ToA2, since one activates two inconsistent interpretations of it as true and as false. So, if the liar sentence also satisfies ToA1 and ToA3, then it is a counter-example to ToA because it does not elicit amusement.[3]

However, I argue that actually none of ToA1, ToA2 or ToA3 is satisfied by the Liar Paradox. ToA1 is not satisfied because the Liar Paradox is a genuine puzzle and so one searches for a solution in a puzzle-solving, goal-directed way. ToA2 is not satisfied because the reasoning via which one activates the inconsistent interpretations of the liar sentence is not unsound, indeed, that one's reasoning seems to be sound is exactly what makes the Liar Paradox paradoxical. Thus, ToA3 is not satisfied because ToA2 is not satisfied and so the Liar Paradox is not a counter-example to ToA.

Another potential counter-example to ToA is astonishment at magic tricks. For example, suppose one witnessed a magician perform a trick in which they appeared to levitate. Then ToA1 seems to be satisfied because one is neither goal-directed nor threatened. ToA2 seems to be satisfied because one activates two inconsistent interpretations of the trick as reality and illusion. ToA3 seems to be satisfied because these interpretations create cognitive dissonance that increases arousal which is augmented by the astonishing content. So magic seems to satisfy ToA1, ToA2 and ToA3 without being amusing and thereby is a counter-example to ToA.

In response, I concede that astonishment at magic and amusement at humour are closely related, after all, magic tricks often elicit smiles and laughter. However, I argue that magic does not properly satisfy ToA2 and ToA3 because magic tricks do not create cognitive dissonance in the same way that the cognitive component of amusement does. Jason Leddington (2016, 257) gives a description of magic which emphasises this point:

[3] That the Liar Paradox is a potential counter-example to ToA might explain the striking resemblance of Bertrand Russell's (2009) analogous paradox to Groucho Marx's famous line 'I would never want to belong to any club that would have someone like me for a member'.

> The experience of magic is neither an experience of forced fantasy nor an experience of inadvertent self-contradiction. There is cognitive dissonance, but it is not the sort that demands resolution on pain of irrationality. The audience never really believes that [David] Copperfield is flying—that magic is real—any more than the frightened audience of *The Exorcist* really believes that Regan is possessed by the demon Pazuzu.

Leddington goes on to give a definition of magic that involves 'an account of cognitive dissonance that is not a matter of conflicting beliefs' but rather a 'belief-discordant alief' (Leddington 2016, 257, 254).[4] Hence, magic does not properly satisfy ToA2 and ToA3 because magic tricks do not create cognitive dissonance in the way required.

A final potential problem for ToA is that cognitive dissonance theory describes cognitive dissonance as 'psychologically uncomfortable' because one naturally strives for consistency amongst cognitions (Festinger 1957; Harmon-Jones and Mills 1999; Harmon-Jones and Harmon-Jones 2007). So, as amusement is not psychologically uncomfortable, cognitive dissonance cannot be involved in amusement. John Morreall (2009, 13–14) outlines a similar problem for all incongruity theories which he calls the 'irrationality objection', according to which amusement cannot involve violations of rationality because humans are psychologically incapable of finding such violations pleasant. George Santayana (1955, 152) formulated the irrationality objection as follows:

> The comic accident falsifies the nature before us, starts a wrong analogy in the mind … we are in the presence of an absurdity, and man, being a rational animal, can like absurdity no better than he can like hunger or cold.

However, I argue that if cognitive dissonance occurs in the paratelic state, then it is not psychologically uncomfortable. This is because, when in the paratelic state, one is not directed towards the goal of striving for consistency amongst one's cognitions. Moreover, as outlined in Chapter 5, high arousal is experienced as excitement and preferred to low arousal when in

[4] An alief is an automatic belief-like attitude that is activated by features of one's environment and can be in tension with one's beliefs (Gendler 2008). For example, when standing on a glass balcony, one may believe that one is safe but alieve that one is in danger.

the paratelic state. Thus, contra to cognitive dissonance theory and the irrationality objection, the cognitive dissonance and increased arousal involved in amusement can be both irrational and pleasant.

It seems then that there are no standing counter-examples to the sufficiency of ToA1, ToA2 and ToA3. Admittedly though, ToA does seem to account for some cases of amusement better than others. For example, the inconsistent interpretations involved in wordplay are usually easier to identify than those involved in slapstick. So, although I have given an account of slapstick in earlier chapters, the bias that ToA has for some cases of amusement over others could be seen as a failure. However, regardless of whether this failure would be attributed to ToA specifically or to the essentialist approach generally, ToA certainly serves to elucidate the concept of amusement as promised in Chapter 3. Therefore, at the very least, ToA is a fruitful heuristic which is illuminating with respect to what extent it is successful.

In this section, I have completed ToA by combining CCoA and ACoA. In the next section, I briefly outline some techniques for increasing amusement by increasing arousal.

2 Increasing Amusement via Arousal

In this section, I briefly outline some techniques for increasing amusement by increasing arousal. Specifically, these techniques are: expectation violation, norm violation, attitude alignment and dissonance accentuation.[5]

As established in Chapter 4, violated expectations are not necessary for amusement. However, expectation violation often features in humour because violated expectations create surprise and increased arousal, which thereby increases amusement. For example, consider the following joke from Emo Philips:

> I like to play chess with old men in the park. Of course, the tough part about playing chess with old men in the park is finding 32 of them.

[5] This list is by no means exhaustive and there are many other techniques for increasing amusement by increasing arousal.

Here one activates two inconsistent interpretations of the described situation and the resulting cognitive dissonance increases one's arousal. However, this arousal increase is also augmented by surprising content because one initially expects the more obvious interpretation of the situation and this expectation is violated when one realises the less obvious interpretation.[6]

Another technique for increasing amusement via arousal is by violating norms. In Chapter 4, I argued that the vague concept of norm violation is no more precise than the ordinary concept of incongruity. However, using the precise definition of 'social norm' from Cristina Bicchieri (2005), it becomes clear that norm violation often features in humour because violated norms create inappropriateness and increased arousal, which thereby increases amusement.[7] For example, consider the following joke:

> A woman goes into a shop and asks 'May I try on that dress in the window?' 'Well,' replies the sales clerk, 'don't you think it would be better to use the dressing room?' (Ritchie 2004, 42)

Here one activates two inconsistent interpretations of the phrase 'in the window' and the resulting cognitive dissonance increases one's arousal. However, this arousal increase is also augmented by inappropriate content because one interpretation violates the norm proscribing public nudity. If the joke was edited so that the woman asks 'May I try on that dress in the store room?', then the joke would not elicit the same degree of amusement because the norm violation would have been removed. Generally, including norm violations in humour serves to increase amusement, provided that the violation does not impinge on ToA1 by inducing a goal-directed or threatened state.

[6] Generally, increasing the degree of surprise serves to increase the corresponding degree of amusement. Alan Roberts (2017) outlines how the degree of surprise in puns can be represented through assigning probabilities.

[7] Roughly, Bicchieri (2005) characterises social norms as based on people having the 'empirical expectations' that enough other people conform to the norm, and the 'normative expectations' that enough other people expect them to conform to the norm.

Attitude alignment is another technique for increasing amusement by increasing arousal. For example, Dolf Zillman and Joanne Cantor (1976, 100–101) propose that amusement at disparagement humour 'varies inversely with the favorableness of the disposition toward the agent or entity being disparaged and varies directly with the favorableness of the disposition toward the agent or entity disparaging it'. This proposal is supported by Zillmann and Cantor's (1972) findings that students rated most amusing those jokes that involved a subordinate disparaging a superior, whilst professionals rated most amusing those jokes that involved a superior disparaging a subordinate. Similarly, Paul McGhee and Sally Lloyd (1981) and McGhee and Nelda Duffey (1983) conducted experiments which found that children expressed more amusement when disparagement humour is directed at an adult rather than at a child. Also, Jessica Abrams and Amy Bippus (2011) found that both male and female participants showed gender bias by giving higher amusingness ratings to jokes targeting the opposite gender. Hence, it seems that aligning humour with one's attitudes towards others serves to increases one's amusement.

Likewise, aligning humour with one's attitudes towards sex also serves to increases one's amusement. For example, Willibald Ruch and Franz-Josef Hehl (1988) had participants rate the amusingness of sexual jokes and cartoons, and then compared these ratings to the participants' reported sexual experience, attitudes towards sex and sexual libido. For both male and female participants, the results showed that those who expressed their sexual impulses were more likely to rate sexual humour as more amusing. In addition, Ruch and various colleagues also used 'factor analysis' on a large number of humour samples from a diverse range of sources by presenting them to a large number of participants from a diverse range of backgrounds (Hehl and Ruch 1985; Ruch 1988; Ruch et al. 1990).[8] One of the main factors identified by the analysis was sexual content, indicating that participants were consistent in their high or low

[8] The 'factor analysis' approach was to have a large number of participants provide amusingness ratings on a large number of humour samples, then categorise these ratings so that humour samples that have correlated ratings fall into the same category, whereas humour samples that have uncorrelated ratings fall into different categories.

amusingness ratings of sexual humour.[9] So, it seems that amusement can be increased by aligning humour with one's attitudes towards sex.

A final technique for increasing amusement via arousal is by accentuating dissonance. This involves increasing the magnitude of cognitive dissonance in order to increase arousal and thereby increase amusement. For example, cognitive dissonance theory states that the magnitude of cognitive dissonance is higher when one attributes a higher subjective value to either cognition (Festinger 1957). In terms of ToA, this means that if one attributes a higher subjective value to the inconsistent interpretations in ToA2, then one's amusement will increase. This would explain why one is more likely to be amused by humour referencing family members rather than strangers or by humour referencing events that are topical rather than outdated. As Michael Clark (1970, 21) observes:

> Why are we amused by the behaviour of our own children and not by the same behaviour in other people's children? Presumably because our own children are more endearing to us … Many jokes are effective because of their topicality and are completely unfunny when their references cease to be topical.

Similarly, Sigmund Freud (2014, 176) identified 'topicality' as a contributor to amusement because jokes that refer to topical events can initially elicit much amusement but lose their appeal once those events become outdated.

Cognitive dissonance theory also states that the magnitude of cognitive dissonance is higher when there is a higher number of dissonant relationships between the two cognitions (Festinger 1957). Hence, dissonance accentuation can also be achieved when the inconsistent interpretations in ToA2 create a higher number of dissonant relationships. For example, consider the following pun:

> The magician got so mad he pulled his hare out.

Here the animal interpretation of 'hare' is supported by the word 'magician' whereas the body-part interpretation of 'hare' is supported by the

[9] Earlier, though less representative, factor analyses have also identified sexual content as a factor (Eysenck 1942; Herzog and Larwin 1988).

word 'mad' (Kao et al. 2015). But now consider the following line from writer Douglas Adams:

> You can tune a guitar, but you can't tuna fish. Unless of course, you play bass.

Here the musical interpretation of 'tuna' is supported by the words 'guitar' and 'play' whereas the aquatic interpretation of 'tuna' is supported by the words 'fish' and 'bass'. In addition, the musical interpretation of 'bass' is supported by the words 'guitar' and 'play' whereas the aquatic interpretation of 'bass' is supported by the words 'tuna' and 'fish'. Thus, Adam's line has a higher number of dissonant relationships than the magician pun and so creates a higher magnitude of cognitive dissonance.

Finally, dissonance accentuation can also be achieved when the inconsistent interpretations in ToA2 have a higher degree of contrast. This echoes Arthur Schopenhauer's (2014, 84) observation that:

> The more correct the subsumption of … actual things under a concept is on one side, and the greater and more glaring their unsuitability to it is on the other, so much the more powerful is the ridiculous effect that springs from this contrast.

Likewise, Rachel Hull et al. (2017, 497) conducted an experiment in which participants generated humour under controlled conditions and concluded that incongruity is higher when there is a higher 'cognitive distance between features of juxtaposed concepts'. For example, consider the following joke:

> A young Catholic priest is walking through town when he is accosted by a prostitute. 'How about a quickie for twenty dollars?' she asks. The priest, puzzled, shakes her off and continues on his way, only to be stopped by another prostitute. 'Twenty dollars for a quickie,' she offers. Again, he breaks free and goes on up the street. Later, as he is nearing his home in the country, he meets a nun. 'Pardon me, sister,' he asks, 'but what's a quickie?' 'Twenty dollars,' she says. 'The same as it is in town.' (Wyer and Collins 1992, 667)

Here there are two interpretations of the nun as chaste and as promiscuous. But, in addition, the chaste interpretation of a nun has a higher degree of contrast with an interpretation of promiscuity than does the non-chaste interpretation of a normal woman. This serves to create a higher magnitude of cognitive dissonance and thereby a higher degree of amusement.

In this section, I have briefly outlined some techniques for increasing amusement by increasing arousal. In the next section, I summarise the key claims of this chapter and of this book.

3 Chapter Summary

In this chapter, I have completed Theory of Amusement (ToA) from Chapter 2. In Section 1, I completed ToA by combining the Cognitive Component of Amusement (CCoA) from Chapter 4 with the Affective Component of Amusement (ACoA) from Chapter 5 as follows:

Theory of Amusement (ToA): Subject *S* is amused by object *O* if and only if:
(1) *S* is in the paratelic state.
(2) *S* activates two inconsistent interpretations via unsound reasoning because of *O*.
(3) *S*'s arousal is increased because of (2).

In Section 2, I briefly outlined some techniques for increasing amusement by increasing arousal: expectation violation, norm violation, attitude alignment and dissonance accentuation.

In this book, I have answered the question 'What is humour?' with the following sequence of definitions:

Theory of Amusement (ToA): Subject *S* is amused by object *O* if and only if:
(1) *S* is in the paratelic state.
(2) *S* activates two inconsistent interpretations via unsound reasoning because of *O*.
(3) *S*'s arousal is increased because of (2).

Theory of Funniness (ToF): Object *O* is funny if and only if *O* merits amusement.

Theory of Humour (ToH): Object *O* is humour if and only if *O* is intended to elicit amusement.

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[1] Note: Page numbers followed by 'n' refer to notes.

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