
Only a symptom of opportunity? Investigating entrepreneurial incongruity through humour science

Chihmao Hsieh

Yonsei University,
UIC 406 Veritas Hall C,
Songdogwakak-ro 85, Yeonsu-gu,
Incheon-City, 406-840, South Korea
Email: c.hsieh@yonsei.ac.kr

Abstract: Instead of treating opportunity as entrepreneurship's molecular unit of analysis, this paper offers a new theoretical perspective by placing the burden on the entrepreneur to verify the presence of incongruity. However, how can we better make sense of the relationship between incongruity and entrepreneurial opportunity? I draw insight from research on the science of humour. First, the more phenomena antecedent or consequent to the incongruity are identified, the more likely the entrepreneurial problem or inventive solution emerges, respectively. Framing incongruity as part of the problem versus a solution becomes pivotal to opportunity discovery processes. Thus, besides Drucker's conceptualisation of incongruity as a symptom of opportunity, it may also serve as a precursor. 'Cognitive congruency' furthermore suggests that moderately complex incongruity resolutions are most likely to maximise conjoint probability of comprehension and appreciation of an opportunity, as a step towards entrepreneurial action. Errors or incongruities emerge as entrepreneurs make overly creative resolutions to prior incongruity.

Keywords: innovation; error; play; bisociation; creation; emotion; nonsense.

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Biographical notes: Chihmao Hsieh is an Associate Professor of Entrepreneurship and Creative Technology Management at Yonsei University since September 2014. He publishes and researches a wide variety of topics, ranging from the effects of training and education on self-employment, to the value of patented inventions, to the effect of cultural industry on modes of entrepreneurship. His work has appeared in *Organization Science*, *Scientometrics* and the *Journal of Management Studies*.

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1 Introduction

“...an incongruity is a symptom of an opportunity to innovate.”

–Peter Drucker (1985)

“The most exciting phrase to hear in science, the one that heralds new discoveries, is not ‘Eureka!’ but ‘That’s funny...’”

–Isaac Asimov

In the entrepreneurship literature, the term ‘opportunity’ is defined as any situation in which new products or services *can* be sold at greater than their cost of production (Casson, 1982; Shane and Venkataraman, 2000; Venkataraman, 1997). Given this oft-cited definition, it is unclear how to definitively distinguish between what represents an opportunity versus what does not.¹ Of course, one could restrict opportunity and its discovery to those situations where new products or services will definitely ultimately be sold at greater than their cost of production. Klein’s (2008, p.181) recent notion of opportunity imagination would then apply. For any other use of the term, short of omnisciently and perfectly predicting all remotely possible future contingencies in the face of uncertainty, *any* situation can or could potentially serve as an opportunity, or at least serve as an opportunity to *then* discover or create an opportunity. An infinite regression results, in which the origins of the origins (of the origins) are endlessly identified, characterised, and debated (McMullen et al., 2007). Then the notion of identifying or distinguishing opportunity potentially becomes arbitrary or meaningless (Dimov, 2007)²; empirically investigating it is elusive (Dimov, 2011).

Instead of analysing the concept of opportunity, I address the concept of ‘incongruity’. In his book *Innovation and Entrepreneurship*, Drucker (1985, p.57) introduces incongruity as one of the major symptoms of opportunity, defining it as a “discrepancy, a dissonance, between what is and what ‘ought’ to be, or between what is and what everybody assumes it to be”. One might say that incongruity necessarily relates closely to that which ultimately does not make sense. Thirty years later, we still have little if any insight on this particular concept. It remains unclear whether incongruity always indicates opportunity. We also have not yet figured out when identification of incongruity leads to entrepreneurial effort or opportunity discovery. To begin addressing these concerns, I ask the following research question: How can we better make sense of the relationship between incongruity and opportunity?

I inform an answer to this question by tapping into the extensive research on the applicability of incongruity in humour. Koestler (1964) famously suggested that scientific discovery – a related process often preceding entrepreneurial opportunity discovery – shares commonalities with the concept of humour. Beginning from the concept of incongruity common to both humour and entrepreneurship, I claim that some of the mechanisms involved in discovering or even creating valuable opportunity are similar to those required to ‘get a joke,’ or more accurately, experiencing humour. Lessons from humour science highlight that resolution to incongruity is as important as incongruity; that there are differences in value among nonsense incongruity, (obviously) resolvable incongruity, and barely resolvable incongruity; that the complexity of resolution to incongruity can determine response; and that the emotional response to incongruity and its resolution can serve as important sources of information in subsequent assessment.

In this paper, the incongruity theory of humour is briefly reviewed, emphasising cognitive and developmental psychology, and then applied to explain entrepreneurial anecdotes. Along the way, I define ‘entrepreneurial incongruity’ as the difference between the logically expected and the actual states of the world, across which economic value can be created. Insights are then offered regarding the relationship between entrepreneurial opportunity, incongruity, and the resolution of incongruity.

2 Entrepreneurship, opportunity, and incongruity

Shane and Venkataraman (2000) define the field of entrepreneurship as the study of “how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited”. A recent review by Short et al. (2010) identifies a wide range of approaches to studying opportunities: theoretical work ranges from social cognition to Austrian economics to population ecology, while empirical research ranges from game theory to agency theory to theories of planned behaviour. While there are rare exceptions such as Buenstorf (2007), “research to date has focused on the discovery, exploitation, and consequences thereof without much attention to the nature and source of opportunity itself” [McMullen et al., (2007), p.273].

Ongoing research reveals at least three reasons that investigating an opportunity-incongruity link has value. First, prior knowledge is valuable but little work prescribes what knowledge investments to make ahead of time (Ardichvili et al., 2003; Shane, 2000). Prior knowledge about incongruity – and investments to reframe incongruity as part of the entrepreneurial problem or solution – may both play roles in revealing potential opportunities. Second, Plummer et al. (2007) highlight lack of research studying the origins of opportunity. Since incongruities are possible symptoms of opportunity, and studying symptoms of a condition can often lead to a cure or resolution, studying incongruities becomes worthwhile. Third, Holcombe (2003) highlights that entrepreneurial action serves to actually create more entrepreneurial opportunity, leaving it unclear how this takes place. Although exogenous shocks can lead to a gap or incongruity in the market, filling a gap imperfectly could create new gaps, and thus reveal new opportunities.

Scholars have not addressed the mechanisms within this kind of link. According to Drucker (1985, p.57), incongruity is a symptom of opportunity, and has potentially important effects on entrepreneurial activity: “It creates an instability in which quite minor efforts can move large masses and bring about a restructuring of the economic or social configuration”. But instead of explaining how incongruities are detected, or where they come from, he describes four different categories of incongruities: incongruity between economic realities, incongruity between assumptions and reality, incongruity between actual and perceived values and expectations, and incongruity within the logic or rhythm of a process.

Of course, concepts *similar* to ‘incongruity’ have been discussed in the entrepreneurship literature. Relatively unchallenged, little is known about what these look like, or how they are identified *ex ante*. Kirzner (1973, 1997) presumes that there are always ‘errors’ in the market, due to the asymmetric distribution of knowledge within a dynamic market process, and differing propensities of alertness among individuals, and these errors are reflected by shortages, surplus, and misallocated resources. Any

discrepancy between reality and the ‘aspiration’ of the entrepreneur may trigger motivated search (Herron and Sapienza, 1992). The daring, alert entrepreneur discovers the earlier errors, buys where prices are ‘too low’ and sells where prices are ‘too high.’ In this way, prices too low are nudged higher, prices too high are nudged lower; and price discrepancies are narrowed in the equilibrative direction (Cohen and Winn, 2007; Dean and McMullen, 2007; Kirzner, 1997).

In contrast, Leibenstein (1979) and Penrose (1963) highlighted the effects of exogenous shocks on the emergence of opportunity via either demand (i.e., tastes and preferences) or supply side (i.e., new product or process technology) of markets. Leibenstein’s (1979) theory of X-efficiency relates market gaps to deviations from the notion of perfect competition and correlates the amount of expected entrepreneurial activity to the size of those deviations. Technological changes and socio-cultural or demographic trends all affect the competitive landscape thus continually bombarding individuals with new information to interpret. These contextual changes along with differentiated interpretations create market ‘gaps’ (Leibenstein, 1968, 1979). Entrepreneurial opportunity emerges because these gaps are not immediately dissipated by entrepreneurial action, in the sense that the quality, motivations, and opportunity costs of the potential ‘gap-fillers’ and ‘input-completers’ determine the growth of the economy (1968, p.79).

Instead of gaps, Penrose coins the term ‘interstices’. Like Leibenstein, she begins by referencing industrial change and innovation but additionally explains why the resulting opportunities cannot be pursued easily by large incumbents. Changes in local customs, tastes in luxury needs, and the need for ‘special uses’ (i.e., racing cars) all potentially create small markets not accessible to big producers or those yielding insufficient profit: “In the long run the profitability, survival, and growth of a firm does not depend so much on the *efficiency* with which it is able to organise the production of even a widely diversified range of products as it does on the ability of the firm to *establish one or more wide and relatively impregnable bases* from which it can adapt and extend its operations in an uncertain, changing and competitive world” [Penrose, (1963), p.137, emphasis added]. In other words, the necessity of maintaining ‘impregnable bases’ implies that firms will be forced to specialise and productive opportunities may emerge and be identified that are inconsistent with that position. Instead, opportunities will open up in the ‘interstices’ for smaller newer firms to fill a market niche. However, Penrose’s analysis carries two major qualifiers: “*If* therefore the opportunities for expansion in the economy increase at a faster rate than the large firms can take advantage of them, and *if* the large firms cannot prevent entry of small firms, there will be scope for continued growth in size and number of favorably endowed small firms” (1963, p.222, emphasis added).

In the last ten years, other concepts relevant to incongruity have been additionally studied. Baron (2006) and Baron and Ensley (2006) examine the notion of recognising *patterns* among a set of conditions in the economic or social environment, where these patterns somehow suggest the *need* for a product that has not yet been created or commercialised [also see Mitchell et al., (2002), p.97]. While breaking ground, this formulation leaves us guessing what it is about certain patterns that distinguishes them from others. Hsieh et al. (2007) relate the process of discovering opportunities to the process of solving unique or valuable *problems*, which when solved reduce the abovementioned errors or gaps. Again, we are left to guess precisely where these

problems come from, or how they are identified. We are also left wondering how inventions posing as solutions may be identified before the problems themselves.

3 An introduction to the role of incongruity in humour

While the structure or mechanisms internal to incongruity – especially how it continually regenerates, and why it does or does not spawn response – has not been explicitly scrutinised in relation to entrepreneurship, it is foundational in the humour literature, especially in relation to getting a joke or experiencing humour. Getting a joke is widely understood as requiring identification of meaningful incongruity, followed by comprehension of and appreciation for resolution of that incongruity (e.g., Suls, 1972). The commonality of incongruity to humour and entrepreneurship is not superficial. DeMey (2005, p.76) describes the process of scientific discovery as triggered by some unexpected observation which resembles the incongruity-resolution involved in humour comprehension: “it is the reasoning processes involved in humor comprehension [and] scientific discovery... that are quite similar.” And as with opportunities that are discovered but not exploited (Baron, 2008; Katila and Mang, 2003), jokes can be comprehended and yet unappreciated (e.g., Zigler et al., 1966).

According to McGhee (1979, p.6), humour is “the mental experience of discovering and appreciating ludicrous or absurdly incongruous ideas, events, or situations.” Personality characteristics (e.g., Omwake, 1937) and social context (Chapman, 1996) may exert a strong influence on both the kinds and levels of humour that are appreciated, as well as the psychodynamic functions that humour serves for an individual. In general, observations and proposals regarding the nature of humour have fallen into three schools of thought: superiority theories, relief theories, and incongruity theories (Raskin, 1985). According to superiority theories of humour (Wolff et al., 1934), a person experiences humour and laughs whenever others are observed to have some failing or defect, at a disadvantage in some way, or suffer some small misfortune. The miser, the hypochondriac, and the overly troubled parent are all icons of comedy. It may be that even the most subtle humour is merely a development of this, and that the pleasure we take in humour derives from our feeling of superiority over those we laugh at. Relief or aggressiveness theories of humour argue that humour often calls conventional social requirements into question, and it may be regarded as affording us relief from the restraint of aggressiveness, or conforming to those requirements (see Freud et al., 1963). For example, humour may enable us to air the sexual impulses which society makes us repress. Moreover, people who have been undergoing a strain may sometimes burst into laughter if the strain is suddenly removed. It may be, then, that the central element in humour is not based on a feeling of superiority, but the more-general feeling of relief that comes from the removal of restraint of aggressiveness.

Although humour has been linked to superiority themes or relief themes, theorists such as Kant, Schopenhauer, Maier, and Bergson have proposed that incongruity lies at the core of the structure of humour (Keith-Spiegel, 1972) and can in fact cover superiority or relief themes. Here, incongruity is generally defined as a cognitively-based conflict between what is expected and what actually occurs in the joke [Suls, 1972; also see DeMey, (2005), p.70; Shultz, (1976), p.12]. Specifically, jokes begin with a setup that has a primary meaning that creates expectations and a predicted ending. However, at the

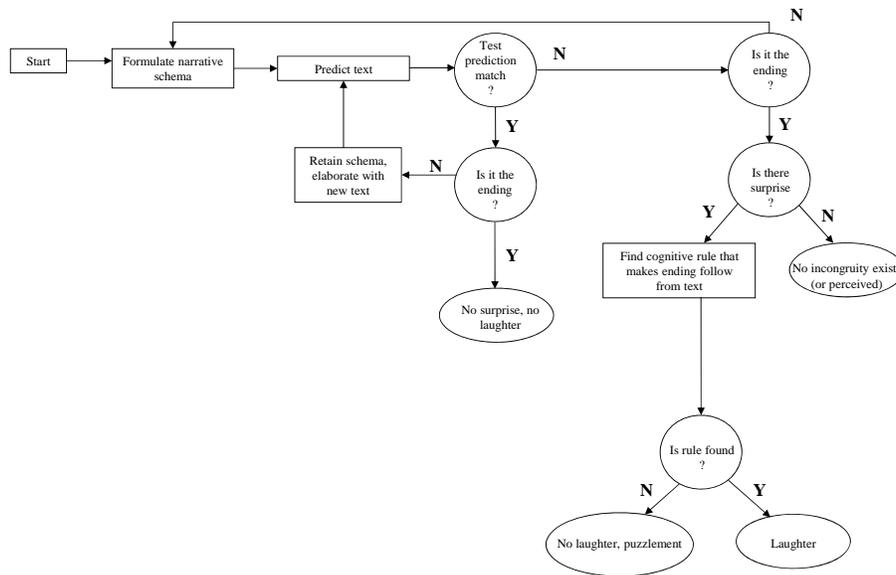
end, there is a final line (or ‘punchline’) that violates, conflicts with, or disconfirms those expectations, and thus usually causes surprise. This relationship between punchline and primary meaning of the setup defines the incongruity.

Consider the following example of a joke that includes an incongruity:

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?” [Suls, (1972), p.81]

It is generally predicted that a congruous ending to this scenario would be “Does that mean I can go now?” [Latta, (1999), p.155]. Instead, O’Riley says, “Does that mean that I can keep the money?” This response does not make sense and conflicts with the predicted ending, thus creating an incongruity.

Figure 1 Suls’ two-stage model of humorous incongruity



Yet, a number of theorists, including Beattie (1776), Freud et al. (1963), Willman (1940), Jones (1970), Shultz (1970), and Suls (1972) have argued that incongruity is necessary but alone insufficient to account for the structure of humour, and that resolution of incongruity also is necessary to comprehend and be aroused to appreciate it. Consider Figure 1, which reproduces Ritchie’s (1999) diagram of Suls’s (1972) two-stage humour model of incongruity. A schema first sets up expectations. Then typically, in jokes, suddenly the punchline ending reveals an unexpected meaning for the initial text. Disconfirmed expectations produced by the second element relative to the incongruity may or may not lead to perception that the setup is odd in some way (Raskin, 1985). If there is such surprise, then the setup may be perceived as potentially ambiguous in which case search commences for the hidden meaning of the setup, which makes use of retrieval of information. Resolution results from determining the ‘cognitive rule’ which reinterprets the punchline in terms of the secondary, less obvious meaning of the setup

(Ritchie, 1999), where a cognitive rule is defined here as “a logical proposition, a definition, or a fact of experience” [following Suls, (1972), p.82]. In other words, the cognitive agent finds an alternative and unexpectedly meaningful and compatible interpretation of the setup (Bateson, 1953; Fry, 1963) on the basis of which, retrospectively, the punchline could have been predicted (if only he or she had not been initially confused) (DeMey, 2005). Meaningful or appropriate incongruity – not strictly nonsense or unresolvable incongruity, no matter how ‘creative’ – is most valuable to humour [Shultz, (1976), pp.12–13].

Reconsider the joke described above. Scholars like Suls (1972) who cite the importance of resolution in humour would suggest that it is not merely that the final line is unexpected and incongruous, but rather that one finds humour in resolution that O’Riley is a stereotypically foolish Irishman (as his name would suggest). Thus, under incongruity theories of humour, a punchline to a joke at first does not make sense. The listener may commence search for a hidden meaning. If she finds the appropriate hidden meaning, then the incongruity is resolved and humour is experienced.

Table 1 offers several more examples of incongruities and their humour-related resolutions, as found in the humour literature. A wide variety of jokes are presented here, ranging from puns and plays-on-words, to children’s riddles and sexually-charged scenarios. All of these require some knowledge in order to identify the incongruity and its resolution. For example, Joke (d) requires some European biographical knowledge: Kevin Keegan and George Best were both famous soccer players in the UK. While Kevin Keegan was known as a successful but average star, Best was known as a brilliantly skilled player albeit an alcoholic. The original quote proclaimed that Kevin Keegan was not fit to lace George Best’s boots.

Table 1 Illustrations of incongruities and their humorous resolutions

<i>Joke</i>	<i>Nature of incongruity</i>	<i>Nature of resolution</i>	<i>References analysing the joke</i>
(a) What is grey, has four legs, and a trunk? A mouse on vacation.	Resulting from the word ‘vacation’ since a mouse is grey and has four legs, but has no trunk	Incongruity resolved by realising that the trunk refers to a suitcase, not the elephant appendage	Ritchie (1999)
(b) Why do birds fly south in winter? It’s too far to walk.	The listener expects explanation for southern movement but does not get it	Listener realises that the question focused on mode of transportation	Ritchie (1999)
(c) Postmaster: Here’s your five-cent stamp. Shopper (with arms full of bundles): Do I have to stick it on myself? Postmaster: Nope. On the envelope.	We expect postmaster to indicate who should help apply stamp; instead we hear about a location	Listener realises that shopper’s line was interpreted as sticking the stamp on his own person	Ritchie (1999)
(d) Kevin Keegan isn’t fit to lace George Best’s drinks.	The listener expects the last word to be ‘boots’	Listener realises that the word ‘drinks’ refers to George Best’s alcoholism	Ritchie (1999)

Table 1 Illustrations of incongruities and their humorous resolutions (continued)

<i>Joke</i>	<i>Nature of incongruity</i>	<i>Nature of resolution</i>	<i>References analysing the joke</i>
(e) Father: What's the difference between an elephant and a watermelon? Young son: I don't know. Father: You'd be a fine one to send to the store for a watermelon.	The listener is initially confused that elephants could be available for purchase at the supermarket	The incongruity is resolved when we realise that the father is teasing his young son in a mild acceptable way	Dienhart (1999)
(f) Fat Ethel sat down at the lunch counter and ordered a whole fruit cake. "Shall I cut it into four or eight pieces?" asked the waitress. "Four", said Ethel. "I'm on a diet."	Cutting a cake into fewer pieces cannot possibly help if one is on a diet	'Ethel' is the name of a stereotypically stupid woman	Ritchie (1999)
(g) Do you believe in clubs for young people? Only when kindness fails.	The answer makes no sense	Listener realises 'clubs' refers to wooden sticks	Shultz (1976)
(h) Can you tell me how long cows should be milked? They should be milked the same as short ones.	The answer does not give a time, and makes no sense	Listener sees that 'long' refers to length not time	Shultz (1976)
(i) "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."	There is no reason to invite the patient in, if the doctor is not at home	Listener is expected to re-read 'young and pretty' and inject sexual meaning	E.g., Veale (2004), De Mey (2005)

In the next section, we investigate the cognition relevant to incongruity, bring in lessons of humour research, apply these lessons for entrepreneurship phenomena, and draw insights.

4 Entrepreneurial incongruity, and insights from the science of humour

While opportunity typically serves as the unit of analysis in entrepreneurship, recently Hsieh et al. (2007) argue that opportunities can be usefully conceptualised as unique valuable problem-solution pairings. Notably, problems are defined by measurable goals to be met (see Huitt, 1992), and solving a problem and thus meeting a goal can reduce the gaps representing incongruities. For example, consider two towns A and B, demographically and socio-culturally identical. There are not enough parking spaces to meet demand for people in town A even though there are enough spaces in town B. This incongruity might be resolved in at least a couple ways. For this kind of scenario, Pretz et al. (2003, p.9) remark:

If we think of the parking problem in terms of parking spaces, we are likely to seek additional spaces when there are too many cars to park. However, if we think of parking in terms of too many idle vehicles, we are more likely to consider new ways of making use of the cars that have remained idle during the

workday (e.g., driving other people who need transportation around the city). This latter perspective will guide us to seek solutions that maximize efficiency rather than maximizing the amount of concrete and asphalt in the downtown area.

In other words, given the same singular incongruity, two distinct problems can be formulated to help resolve the incongruity. One focuses on increasing number of additional spaces needed, while the other focuses on reducing idle vehicle time. Furthermore, for any given problem, there are various solutions, and each solution is based on decision-making that makes use of a distinct set of logical steps or scientific principles (see Arthur, 2007). Yet, the reverse may also hold: incongruity may serve not as a *symptom* of an underlying problem but as the *basis* for an inventive solution to a not-yet-existent problem.³ Thus, I define ‘entrepreneurial incongruity’ as simply the difference between the logically expected and the actual states of the world, across which economic value can be created.

Much of the humour and entrepreneurship literatures overlap in their appraisal of the importance of the identification of incongruity and errors. In a well-designed joke, cues indicating the correct interpretation are *purposefully removed* so as to ensure the latency of the hidden humorous meaning. Thus, the identification of incongruity requires prior mastery of a knowledge area, and specifically an established expectation of ‘how things should be’ (McGhee, 1979; Zigler et al., 1966). Knowledge acquisition can apply not only to objects, but also behaviours and social norms (e.g., Borgatti and Cross, 2003). Any available mastery enables an individual to recognise when an incongruous event has been substituted for the expected congruous one, and also plays an important role in determining whether an incongruous event (such as an answer to a riddle question) should be interpreted at the level of humour or nonsensical fantasy [McGhee, (1979), pp.155–156].

In the entrepreneurship literature, greater accumulation of knowledge structures is understood to lead to a greater likelihood of entrepreneurial discovery (Shepherd and DeTienne, 2005; Venkataraman, 1997). However, according to many scholars, more important than the amount of sheer knowledge one possesses, is the ability to realise that an incongruity exists, via perception of multiple frames or environments simultaneously. Koestler’s (1964) concept of bisociation – “the perceiving of a situation or idea... in two self-consistent but habitually incompatible frames of reference” (see Maggitti and Smith, 2006) – becomes relevant. Ko and Butler (2004) examine if the bisociative thinking ability of an entrepreneur mediates the relationship between prior knowledge and opportunity recognition in a sample of 97 high technology firms. Those authors find that bisociative thinking ability indeed mediates the relationship between prior knowledge and opportunity recognition. Koestler’s notion of bisociation has also been addressed as a kind of attitude in March’s (1979, p.77) notion of foolishness, which allows for a “deliberate, temporary relaxation of rules to explore the possibilities of alternative rules.” Finally, helping to popularise the notion of bisociation, Martin (2007) emphasises the importance of ‘integrative thinking’, the predisposition and capacity to hold two diametrically opposing ideas in mind, and then, without distressing or simply compromising for one option over the other, synthesising a framework superior to either opposing option on its own. Integrative thinkers creatively resolve tensions without the need to make costly trade-offs, turning challenges into opportunities, instead of merely generating and comparing working hypotheses followed by experimentation. He

rigorously examines the process of integrative thinking in terms of four constituent parts: salience, causality, architecture, and resolution.

While explanations for the lack of development of such thinking ability have not been given in the entrepreneurship literature, they are foundational to understanding the science of humour. Studies show that at about age 7, children become aware not only that some words have multiple meanings but they become simultaneously aware of (both) the meanings [McGhee, (1979), pp.77–78]. They realise that the obvious meaning creates nonsense, whereas the less probable one resolves an incongruous situation [McGhee, (1979), pp.145–146]. Children’s lack of comprehension before age 7 has been demonstrated by presenting first-graders with both joking and serious answers to riddle-type questions. When asked to choose the funnier answer, first-graders are as likely to choose one as the other – a clear indication that they do not understand the double meaning responsible for the humour. First-graders typically defend their response in either of two ways. They may complain that one answer seems just as reasonable (or unreasonable) as the other, in the sense that they cannot detect the incongruity. Or alternatively they find that resolution-removed versions of a joke are just as funny as the original versions: they find the incongruity funny because it represents nonsense and is incompatible or inconsistent with what the child has come to expect through past experience, not because it makes sense in an unexpected way (see Shultz, 1972). In other words, they can detect the incongruity, but they think it is nonsense and instead cannot detect the resolution.

4.1 *Antecedents, consequents, and the framing of incongruity*

While various research efforts iterate the importance of amount of knowledge to the discovery of opportunity (e.g., Shane, 2003), seminal to the humour literature, it is specifically knowledge of antecedents or consequents of situations that typically lead to the detection of *meaningful* incongruity; acquiring simply more knowledge does not suffice. Humour in jokes is achieved as a direct result of the acquisition of a series of cognitive abilities referred to by Piaget as concrete operational thinking (see, notably, Inhelder and Piaget, 1958). Consider joke (b) in Table 1. The seemingly-innocent question seems to be inquiring about the avian phenomenon as regards the word ‘south’, or possibly the word ‘winter’. The question is not likely inquiring about avian flight. After all, one of the first basic bits of knowledge we learn as children about a bird is that one of the first behaviours it learns is flight. Furthermore, given that typical birds do not have long legs or run particularly fast, our antecedent knowledge is that they fly to cover any significant distance. Thus, avian flight is assumed to be uncontroversial and irrelevant to the answer. When the answer is given, however, we are surprised, until we realise that the joke-teller was not taking avian flight for granted.

For those with greater knowledge or experience, humour is less perceptually oriented and rather centres on abstract qualities of behaviour and thought [McGhee, (1979), p.143]. The reduced perceptual centredness characteristic of the transition to concrete operational thinking has a tremendous influence on an individual’s thinking, in that it allows the person to consider relationships between events rather than simply focusing on the end states or outcomes of events [McGhee, (1979), pp.77–78]. To illustrate, consider the phenomenon described by McGhee (1979, p.74):

[A] child might laugh at a picture of a bicycle with square wheels without having a well-developed sense of awareness of the effect this would have on trying to ride it. Simply, young children’s humor centers on the perceptual qualities of objects and events and incongruous events are funny to a young child because they look ‘wrong,’ ‘backwards,’ and so forth. When asked to explain why such situations or events are funny, preschoolers cannot advance beyond a purely descriptive account and indicate why the situation described makes it funny.

In other words, children laugh at square wheels because they are simply not the usual circle-shape. The picture of bicycles with square wheels could be funny both due to antecedents and consequences. On one hand, one might laugh not because the wheels look unusual, but rather because one imagines that the resulting ride would be uncomfortably bumpy to the point where a bicycle no longer makes sense. This represents an application of the consequents of the situation. Alternatively, consider the context where a bicycle manufacturer’s industrial designer introduces at a meeting such a drawing. If you correctly knew that the previous night he was out on the town, you might laugh because you imagine that the designer had a bit too much to drink and came up with the drawing hastily before the presentation. Thus, any incongruity can initially be resolved by knowledge of either antecedent phenomena or consequent phenomena. The awareness or understanding of this phenomena is followed by recognition of scientific principles that make use of those phenomena. As argued by Arthur (2007, p.274), invention – or in this case the inventive discovery of incongruity resolution – may “begin with a phenomenon or effect itself – usually a freshly discovered one – for which some associated principle of use suggests itself.”

Figure 2 Process model of entrepreneurial incongruity (see online version for colours)

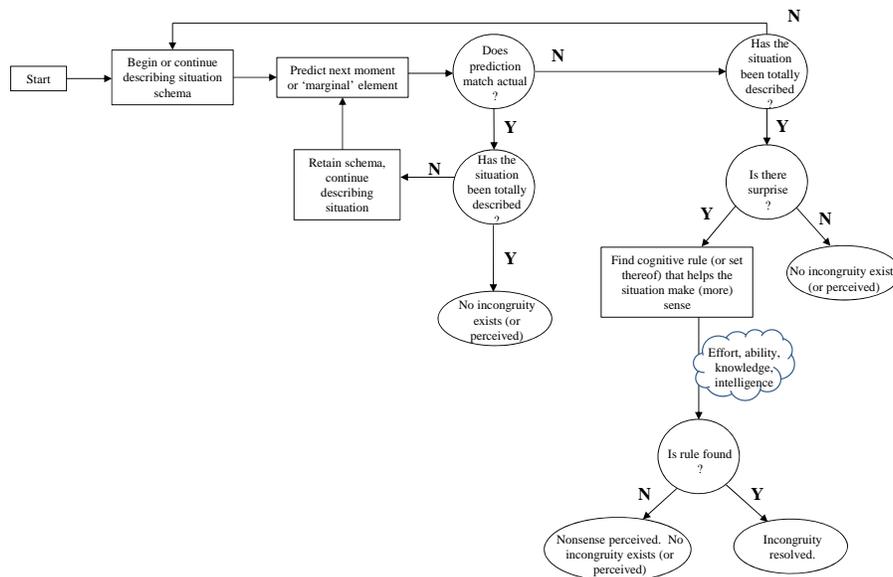


Figure 2 shows a process model of entrepreneurial incongruity resolution, adapted from Suls's (1972) two-stage model presented earlier. Most importantly, if a situation involves surprise or an inconsistency, then one must search for the cognitive rule that helps the situation make sense. Search for a cognitive rule is more successful depending on cognitive effort, (creative) ability, knowledge, and intelligence. (Of course, if instead a set of rules is required, or these rules are complex, then higher levels of these factors are generally required.) If rules are found, then the incongruity is resolved. However, if it is not found, then nonsense is perceived.

Consider the following examples. Mitch Altman, who faced a noisy TV in a Chinese restaurant in Palo Alto, was trying to catch up with old friends over noodles one evening in the early 1990s (Abramson, 2007). To him, it seemed strange that a television would be blaring in a location where people are known to usually converse. However, because the norm is that TV's do not tend to be far from their remotes, it also did not make sense. Altman considered programming and noise from the TV during a meal with friends to be an incongruity resolvable if any patron could turn off the TV. Thus, that day Altman dreamed up a key-fob device that transmits 'off' codes for hundreds of TVs at once. His first year selling the TV-B-Gone brought in more than \$1 million in sales. In a separate case, consider the incongruity posed by the waning tradition of sending food for grieving families. Antecedents to the waning tradition include today's fast-paced society with countless two-career families and frequent relocations, whereupon people do not necessarily live down the street from their friends and relatives or have time to prepare a healthful meal and personally deliver it. In considering these antecedents, one way to resolve the incongruity, as identified by David Storke, is to offer a 'sympathy food' delivery service (Gould, 2008), whereby friends and former neighbours now in faraway places can send the gift of an empathetic comforting meal.

In these two illustrations, incongruity is being conceptualised as a *symptom* of an existing, perhaps latent problem. Symptoms, by definition, emerge after a problem has already incubated. When an incongruity is framed as a symptom, there is an underlying problem which should be eliminated. Identifying the problem underlying the incongruity clearly requires applying principles (e.g., 'know-how') associated with norms or antecedents that pre-date the perceived incongruity. Thus, formulation of entrepreneurial problems will be positively related to greater knowledge of the norms or antecedents likely to pre-date or *precede* an incongruity in the environment. In this case, incongruity serves as a symptom of opportunity. In other words, those more likely to have knowledge about what precedes an incongruity should *frame* that incongruity as part of an entrepreneurial problem.

Recall that opportunity can be reconceptualised as a unique valuable problem-solution pairing. Thus, incongruity may also serve as the basis for a *solution* in which case the problem is imagined and comes afterwards [Cohen et al., (1972), p.2; Sarasvathy, (2001), p.332; Weitzman, 1998). Specifically, in such cases, the incongruity is considered a given, and is considered part of an inventive solution, not the problem. Consider the story of Gamewear. The founders identified that sports equipment generated excitement in people inordinately. This seemed like an incongruity. Instead of treating this relative excitement as a nuisance to be eliminated, they treated the incongruity as part of the inventive solution of their Gamewear jewellery. Nobody ever thought of sports equipment-inspired jewellery because it was not clear what consumer problem it might solve.

Table 2 Illustrations of entrepreneurial incongruities and their resolutions (see online version for colours)

<i>Situation</i>	<i>Nature of the incongruity</i>	<i>Nature of the resolution</i>	<i>References</i>	<i>Picture (if applicable)</i>
(a) On one hand, we have music listeners that wish they could listen to music anywhere. On the other hand, we have Chinese take-out boxes that can be unfolded to go anywhere.	The incongruity is that we expect boxes to serve only to contain something.	The incongruity is resolved when we realise that the box itself can be endowed with other characteristics (i.e., as an interface for speakers).	Wang et al. (2013)	
(b) On one hand, people spend time reading while in the bathroom. On the other hand, people do not like being distracted by advertisements in internet pop-ups.	The incongruity is that we expect that one cannot read in a bathroom unless we bring something with us.	The incongruity is resolved when we realise that toilet paper can be embedded with corporate advertisements.	Wang et al. (2013)	
(c) On one hand, the excitement at airport arrival areas is muted, with only balloons or flowers, even though friends and family may only be seeing each other for the first time in years. On the other hand, people typically bring banners from home to express spirit and cheer on their favourite teams at sports events.	One incongruity is that we expect that the time and effort required to make a banner is not worth it, for specific infrequent airport pickups.	The incongruity is resolved when we realise that banners might be created as easily as candy is purchased from airport vending machines.	Kearns (2011)	
(d) On one hand, many people are not cluttered with movies, handbags, and video games. On the other hand, toys are known to clutter playrooms and homes as children grow older.	The incongruity is that toys could be physically rented in the same way as those other items.	The incongruity is resolved when we realise that parents will not mind renting gently-used toys if they can be assured of cleanliness and safety, and kids will not realise that they are receiving used toys.	Peterson (2008)	
(e) On one hand, many people listen to music to stay entertained and be happy. People do not listen to speeches that make them sad, even though that is also an emotion.	The incongruity is that we don't expect people to want to listen to sad things.	The incongruity is resolved when we realise that people still want to listen to those memorable events.	Folino (2010)	

In this latter case, incongruity does not serve as a symptom of opportunity but rather poses as a precursor to opportunity. These incongruities are not eliminated, but rather the environment surrounding these incongruities is manipulated to accommodate the incongruity. Perhaps the incongruity is exogenously introduced into the economy, whereupon it is leveraged for entrepreneurship. Alternatively, the incongruity *could* have been framed as a symptom of an opportunity, but is instead actually framed as predicting a need that does not yet exist. Thus, formulation of entrepreneurial inventions (that can pose as solutions) will be positively related to greater knowledge of the phenomena likely to *follow* an incongruity in the environment. In this case, incongruity serves as a precursor to opportunity. Then those more likely to have knowledge (e.g., ‘savviness’) about what likely follows an incongruity should *frame* that incongruity as part of an entrepreneurial solution. The alternative – framing incongruity as part of entrepreneurial problem – is less efficient in the opportunity discovery process if one already knows what results from incongruity, and can leverage that incongruity as part of an entrepreneurial solution.

The upshot of this section is that incongruities can indicate the likelihood of opportunities, but each incongruity may be part of the problem or alternatively part of the solution. The proper framing of the incongruity should be matched with one’s knowledge sets, in order to help maximise the likelihood of entrepreneurial discovery. Table 2 offers additional examples of entrepreneurial incongruities and their resolutions.

4.2 *Maximising response to incongruity resolution*

Humour research often goes one step further to argue that degree of perceived complexity of the resolution is particularly important to drawing humour in jokes. Jokes that are too easy to figure out are not very funny because the resolution to an incongruity can be understood immediately (Zigler et al., 1966): no real mental effort is required to ‘get the point’. Adults find most children’s jokes very unfunny and non-arousing precisely because they are too simplistic or boring. In contrast, very complicated and intellectually demanding jokes tend not to be very funny for the opposite reason. They require so much effortful thought that the ‘fun’ is taken out of what is supposed to be funny (McGhee, 1976). Perhaps the joke is too long, or has so many interconnected things happening that there is trouble comprehending the resolution no matter how much the listener tries. Even if the listener eventually comprehends the incongruity and intended resolution, they may be taken out of the mood to appreciate the humour. At the extreme, a listener may even give up trying to figure it out, because it does not seem worth the effort.

According to McGhee’s (1979) notion of ‘cognitive congruency,’ incongruity resolution perceived as moderately complex is most likely to both accommodate comprehension and maximise appreciation (thus generating attention), and this has been extensively supported by evidence. First, Shultz and Zigler (1970) find that when a totally unfamiliar object is presented to infants, there is no smiling initially. Rather, the infant looks at it, manipulates it, and generally explores it in an effort to recognise it and make some sense out of it. In other words, the infant relates (although with no conscious awareness) this new event to previous ones experienced. As the object is repeatedly presented to the infant, smiling gradually begins to appear. The child is building a schema for the object with each successive presentation and eventually achieves a sufficient memory to permit recognition. As the object is continuously presented, however, smiling reaches a peak and subsequently begins to subside. Boredom sets in because eventually

the object is recognisable with virtually no effort at all. Another study by Zigler et al. (1966) finds that smiling and laughter at cartoons increases progressively between grades two and four, but decreases between grades four and five. In a follow-up study (Zigler et al., 1967), the greatest amount of smiling and laughter (at all three grade levels) occurred in connection with comprehension scores in the middle ranges: that is, children who seemed to either fully understand the cartoons or not understand them at all were least likely to laugh and smile, and these findings also seem to support the view that cartoons that are moderately challenging are likely to be funniest. Finally, the effects of so-called 'conservation jokes' have been examined on older men and women, ranging from 50 to 80 years of age (Schaier and Cicirelli, 1976). Subjects were asked to rate them for funniness. Consistent with the common finding that certain intellectual and physical skills tend to deteriorate with increasing age in later years, comprehension of conservation jokes became progressively worse with increasing age, whereas appreciation increased with age.

The popular press is littered with illustrations of entrepreneurs that identify incongruities, and then select challengingly creative problems to tackle. Consider the story of Kathy Taggares, of K.T.'s Kitchens Inc., in Glendale, California (Hyatt, 1991). With \$200,000 in cash and \$800,000 in bank loans, she bought an \$8-million salad-dressing factory from Marriott Corp. in June 1987; within a year, it was very profitable and hence exceedingly mundane. "It wasn't challenging enough for me", says Taggares, 38. She almost drove off, after noticing the lack of companies that integrated pizza and salad products, even though those tend to go together. Thus, in the fall of 1988 Taggares plowed her profits into a new heap of problems, in the form of a company that made pizza crusts. "In hindsight, it didn't make any sense, but I felt compelled to do it", she admits. Or take a look at what drove the story of Peter Beck's efforts at entrepreneurship (Wright, 2001). It was 1983, and the Hungarian-born chef turned real estate agent noted that there was a lack of novelty drinking water among a slew of novelty household consumer items. He hit upon the creative idea to bottle water from Niagara Falls for sale to the 15 million eager tourists who flock every year to the world's most famous waterfall. The venture, Niagara Bottled Water, would wholesale six-ounce bottles of falls water for \$2.45 to countless local gift shops. In the wake of subsequently founding over a dozen more companies, Beck admits that he's a serial entrepreneur, addicted to the near-adrenaline rush of developing new concepts and pushing them out to a waiting world – win or lose. Says Beck, "For a real entrepreneur, the money is secondary – the primary motivation is the challenge." These stories of entrepreneurship exemplify the creative challenge at the heart of notions of 'cognitive congruency.' Perceptions of effective incongruity resolutions as moderately complex most likely generate response in the form of entrepreneurial action. Neither incongruity resolutions perceived as simple nor extremely complex will generate such efforts.

A focus on incongruity's relevance to opportunity discovery can relate to recent notions of entrepreneurial action. Watson (2013, p.407) describes entrepreneurial action as an ethnographic outcome and specifically a 'category of situated creativity', whereby situated creativity refers to members of the human species as continually facing new circumstances in their lives and condition. It is precisely when individuals face new circumstances (that is, across time and experiences), when incongruity becomes salient: expertise with one set of conditions can reveal mistakes, gaps, or incongruities in future scenarios. McMullen and Shepherd (2006) in describing the role of uncertainty in

entrepreneurial action, highlight that opportunities are exploited when individuals are willing to bear the uncertainty needed to take entrepreneurial action. As mentioned before, incongruity represents a symptom of opportunity, and thus, confident identification of an incongruity, and identification of a meaningful resolution (perhaps with the added aid of emotional response as an additional information signal) would be valuable to reduction of uncertainty. A theory of entrepreneurship that references incongruity and incongruity resolution (specifically via the analogy of humour) can respond to both of these approaches to entrepreneurial action.

5 Discussion

When a doctor attempts to identify a patient's ailment or illness, he first takes account of the symptoms presented by the patient. This paper follows the same logic, by studying the entrepreneurial role of a symptom of opportunity: incongruity. Incongruity helps to resolve the infinite regression by placing the burden on finding what fails to make sense or what fails logic based on the present and the past, not based on what is unknowable about an uncertain future. While research has covered the psychological effects of incongruity on the recognition or memorisation of past events (Bruner and Postman, 1949), and also the surprise and remembrance of advertising images (e.g., Alden et al., 2000), the incongruity addressed by Drucker relates mainly to logical incongruities.

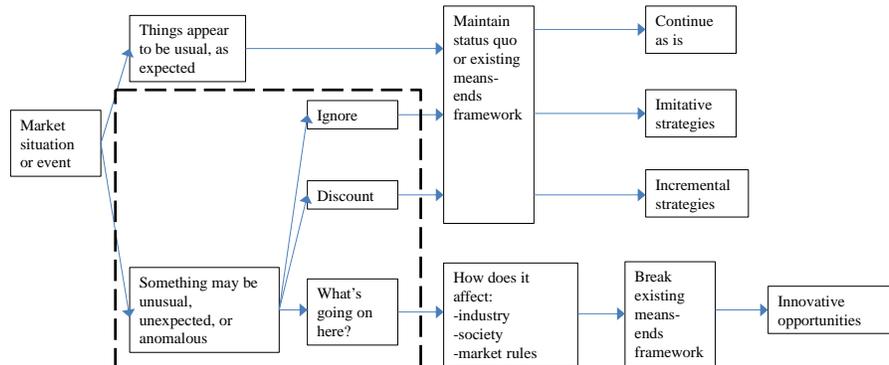
In humour science, the comprehension and appreciation of humour is often shown to depend on identifying the meaningfulness of incongruity. Borrowing from that literature, and highlighting anecdotal evidence from actual entrepreneurial activity, insights about the role of incongruity in entrepreneurship have been derived. As a result, the concept of opportunity has been unpacked a bit more, to show that incongruity and its resolution can serve as the foundation for the problems or inventive solutions that together make up an entrepreneurial opportunity.

In particular, I am suggesting a principle of cognitive congruency (McGhee, 1976), where people with greater creative ability or raw intelligence will choose to tackle the more complicated entrepreneurial problems, regardless of entrepreneurial payoffs or opportunity costs (c.f. Shane, 2000). This viewpoint certainly seems reasonable: evidence supports the proposition that entrepreneurs tend to be relatively creative [Shane, (2003), pp.56–58], intrinsic motivations may be more effective than extrinsic motivations in leading to creativity and entrepreneurship (Amabile, 1997; Delmar, 2000), and those with an intrinsic orientation also tend to prefer tasks that are moderately challenging, whereas extrinsically oriented students – those motivated by receipt of a reward, or the threat of being punished for underperforming – gravitate toward tasks that are low in degree of difficulty (see Lepper, 1988).

It is useful to position incongruity and incongruity resolution in a broader entrepreneurship conversation. As Dimov (2007) attests, ideas are a function of creativity and learning but lead to potential opportunities only if carefully vetted and developed. The term 'idea' is potentially very general or vague compared to opportunities; incongruity resolution is a specific type of idea. Furthermore, opportunity is indeed more than incongruity and resolution. As highlighted by Katz and Green (2013), Figure 3 shows that something related to unexpectedness or incongruity must be identified before an opportunity can be discovered. While 'unexpectedness' highlights a difference detected over time, the term 'incongruity' highlights the bisociational ability to realise

that two similar situations are simultaneously relevant (one appropriate, the other inappropriate). The dotted box drawn in the figure delineates the portion of the opportunity discovery phenomenon this paper addresses.

Figure 3 A representation of the opportunity discovery process (see online version for colours)



Note: The dotted box indicates the portion of the opportunity discovery phenomenon that this paper addresses.

Source: Adapted from Katz and Green (2013)

5.1 Assessing incongruity 'from the inside-out'

The notion of bisecting entrepreneurial problems or inventive solutions into incongruities and incongruity resolutions is valuable for a couple reasons. First, an entrepreneurial 'problem' (Hsieh et al., 2007) can now be valued without relying on determining demand for accompanying solution-oriented products or services, or the number and identity of the decisions defining the problem, both of which require knowing something that is difficult to know a priori. According to logic presented here, a problem would be deemed 'valuable' depending on the extent and meaningfulness of the underlying incongruity. Secondly, bisection of problems into incongruities and incongruity resolutions reveals how problems are themselves formulated as a result of problem-solving efforts, and in some sense the problem is formulated as a solution (or more accurately, a resolution) to incongruities.

While incongruity can serve as the basis for entrepreneurial problem or inventive solution, incongruities nevertheless vary in the degree to which they make obvious and/or objective sense. In one scenario, incongruities could be obvious, and products resolving those incongruities can 'sell themselves' (i.e., with minimal marketing). Consider the incongruity identified by Baron (2006) regarding luggage. There was a large increase in the number of air travellers, growing problems and difficulties in checking luggage, and physical expansion of airports. And yet luggage did not make use of wheels. Only in 1972 did US Luggage finally patent luggage wheels. When wheeled luggage was introduced to the public, it immediately became popular, with minimal advertising expenditure to explain it.

In contrast, an incongruity perceived by one entrepreneur may not be obvious and universally perceived by everyone. The entrepreneur may be relying on fictions or stereotype or personalised counterfactual thinking, and additionally may be exercising his right in being satisfied with plausibility [Isenberg, 1986; Weick, (1995), pp.55–61]. Marketing efforts – including storytelling (Lounsbury and Glynn, 2001; Martens et al., 2007) – to convince about the incongruity then become crucial, and then available or readily accessible financial, reputational, and social capital becomes even more important. The key issue shifts from whether the incongruity is objectively ‘true’ as the preface to a third-person opportunity, to whether the entrepreneur can put herself into the position of assembling enough resources to tackle the venture, as the preface to a first-person opportunity (McMullen and Shepherd, 2006).

The distinction between incongruity as symptom (problem-oriented) versus incongruity as precursor (solution-oriented) significantly differs from the difference between supply-side opportunities and demand-side opportunities [Eckhardt and Shane, (2003), pp.343–344]. First, the distinction made in this paper actually begins to unpack the concept of opportunity by addressing the different possible roles of incongruity, as a part of entrepreneurial problems or entrepreneurial solutions. Second, those two sets of classifications are largely independent. Supply-side opportunities refer to those situations where additional economic value can be created via changes or trends in prices or availability of products, goods, or services. For these opportunities, incongruity framed as symptom is associated with the opportunity resulting from fighting against such change or trend. Incongruity framed as precursor is associated with the opportunity resulting from making use of that change or trend. In contrast, demand-side opportunities derive from changes in consumer preferences or tastes. If such change is framed as an incongruity, and if one seems to leverage and encourage that change, then that incongruity is serving as a precursor. If the opportunity relates to fighting the consumer’s change in taste, then the change serves as a symptomatic incongruity.

In a related sense, a focus on entrepreneurial incongruity may add concreteness to the opportunity ‘creation versus discovery’ discussion (Alvarez and Barney, 2007; Zahra, 2008). When incongruity serves as a symptom underlying an entrepreneurial problem, this may serve as the basis for opportunity discovery, insofar that all the elements of the problem already exist and opportunity requires search for the solution. In contrast, when incongruity serves as the basis for an inventive solution, it is more likely solving a not-yet-visited or not-yet-considered problem. In other words, a novel need or pain would be created. Under such a formulation, one single incongruity can lead to both the discovery of an opportunity, and the creation of a distinctly different opportunity. Furthermore, it may be useful to describe newly created problems as possibly indicating only created opportunities, and newly created solutions to existing problems as possibly indicating only discovered opportunities.

The insights about incongruity presented in this paper can be contrasted with literature on unexpected events, counterfactuals, pattern recognition, and serendipity. First, I focus more generally on incongruities instead of only the unexpected, a distinction made before [e.g., Drucker, (1985), Ch. 3 vs. Ch. 4]. After all, if an individual is exposed to something unexpected, that situation can no longer be as unexpected by that person. Yet, it may still represent an incongruity due to the disconnect in logic.

Second, I add to the recent work on ‘opportunity finding’ and specifically the requirement of bringing to life a counterfactual event brought about by mental simulation (esp. see Gaglio, 2004). In order to better discover or create an opportunity, an individual

mentally simulating the past before an incongruity should conceptualise the incongruity as symptomatic of a problem. In contrast, an individual mentally simulating the future taking place after an incongruity should conceptualise the incongruity as part of an inventive solution for a not-yet visited problem, and thus as precursor of opportunity. Third, in highlighting incongruity I attempt to build upon recent work on pattern recognition in entrepreneurship (Baron, 2006). In that work, conditions in the business or consumer environments present themselves and somehow individuals detect patterns that they are familiar with. This paper takes a complementary approach, suggesting that entrepreneurs are able to detect meaningful incongruities or deviations from (logical) patterns.

Finally, serendipity in entrepreneurship (Dew, 2009) relates to the notion that an individual can search for one thing and yet end up finding another. While serendipity can be attributed to contingencies arising from ‘sheer and utter luck’, it is generally defined by events that are not logically necessary, and merely unanticipated. However, it can also arise when an incongruity is (suddenly) identified, and search is automatically engaged in a different direction. Here, unlike serendipity, a theory of incongruity resolution is about what is initially not logical at all. In other words, humour may be one force that leads to meaningful search for hidden meaning, and then serendipitous discoveries.

5.2 *Valuing a humour-oriented approach to incongruity*

One of the premises of this paper is to suggest that elements of the structure of humour are similar to the elements of the structure of entrepreneurial opportunity. Until now, the literature generally gives the story that gaps emerge, and that whenever there is a gap, there is an opportunity. This paper attempts to suggest that the story is not quite that simple. To better understand the link, this paper refers to Hsieh et al.’s (2007) paper on a problem-solution framework, and suggests that essentially most (if not any) incongruity can be part of *either* problem or solution, and that incongruity resolution is the missing step which can diverge the two cases. Insofar that incongruity does not suffice as a source of opportunity, and insofar that the incongruity-opportunity link can benefit from incongruity resolution, then humour science – which explicitly investigates both incongruity and its resolution – is a good candidate lens by which to investigate entrepreneurial incongruity.

Humour’s approach to incongruity offers a specialised but approximate template for exploring some boundaries of entrepreneurial cognition research (Mitchell et al., 2007). Humour science highlights the distinctions among nonsense incongruity, (immediately or obviously) resolvable incongruity, and barely resolvable incongruity. The resolution of the difference between initial expectation and secondarily perceived reality is as important as the incongruity itself, whereby the realisation of the resolution depends on knowledge of relevant cause-effect pairings that lead to expectation and that then highlights the gap between expected and actual.⁴ Nonsense incongruity and (immediately or obviously) resolvable incongruity have minimal basis for value, because they do not inspire search. As an example of nonsense incongruity, consider an alligator popping out as you walk next to a ‘manhole’ in the middle of the street. Generally, this is simply surprising or unexpected, with no explanation or resolution forthcoming. Not only might a scared person not bother to resolve the incongruity, or avoid resolving and thus become scared, but this person is also likely to feel a negatively-valenced emotion such as fear or

confusion, and attempt to escape the dangerous stimulus. Instead, it is barely resolvable incongruity – the same kind of incongruity most amenable to Kirznerian ‘errors’ and alertness – that are central to both humour and entrepreneurship. Furthermore, a humour-based perspective also observes that nonsense or immediately resolvable incongruities and incongruity resolutions generate no emotional response. Recent entrepreneurship theory recognises the value of feeling and emotion as a source of information (e.g., Foo, 2011). Nonsense incongruity generates no search in the first place, and nonsense incongruity resolution generates no emotional response (McGhee, 1979). The plausible resolution to incongruity that opens the door for humour in jokes reflects the same plausible resolution to incongruity that opens the door for value in opportunities.

While claiming to identify incongruity *ex ante* places a greater burden on the entrepreneur than claiming to identify ‘opportunity’ *ex ante*, a humour-oriented approach to incongruity is useful because it explicitly expects and requires the *finality* of a valuable way to resolve the incongruity; without incongruity resolution, a joke is not complete. In contrast to a focus on opportunity discovery, where the concept of opportunity fundamentally requires the element of future thus opening the door for an infinite regression, a focus on incongruity resolution is more about assessing what is known in the present and about the past, not judging about uncertain luck of the future.

A humour-oriented approach to incongruity can help inform us why some people are able to recognise or identify commercial opportunities, while others cannot. Certainly, Kirzner remarked that some people are ‘alert’ to market errors and others are not. In this paper, what is highlighted is similarity in past experience (of norms) or a match in complexity of a person’s background knowledge, to the environment. Similarity in past experience would help people to identify and frame incongruities, and a match in complexity would help people to find appropriate incongruity resolutions. After all, as highlighted by Harms et al. (2009), analysis of the connections and interdependencies among persons, structure, strategy, and environment – thus a configuration approach – has much potential application in future entrepreneurship research. Thus, for example, a person with only experience in simple environments would have difficulty resolving incongruities if appropriate incongruity resolutions require complex perception and analysis. An entrepreneur’s knowledge system would need to be complex enough to recognise incongruity resolution. Furthermore, emotional capacity and (self-) awareness may also distinguish opportunity finders from others. While past work on emotions has mainly addressed opportunity exploitation, we address discovery (e.g., Foo, 2011).

General conditions under which an incongruity would indicate commercial opportunity would relate to non-obvious incongruity resolutions. Baron’s (2006) theory of connecting ‘the dots’ of seemingly unrelated trends then applies. While Baron’s theory addresses pattern recognition and the identification of patterns, this paper’s theory highlights the identification of *deviations* in patterns. Greater size and moderate complexity of these deviations, as well as moderate complexity of the resolution, open the door for commercial opportunity. However, determining these general conditions is difficult insofar that they would imply that opportunities may exist that anybody can find and exploit.

5.3 *Future research directions*

Investigating this paper's insights empirically is one of the obvious next steps. Distinguishing between an individual's stock of know-how versus their stock of savviness, and then investigating how many entrepreneurial opportunities they can identify when incongruities are framed as symptoms or precursors, would be a good setup for testing the first set of insights. Operationalisation of the complexity variable in the latter insight is an empirically-driven task, insofar that it is difficult to establish ahead of time what levels of complexity are considered moderate. Yet, perhaps complexity might be effectively measured via the sheer length of text (measured by word count or character count) used to describe the resolution to an incongruity.

Along theoretical lines, future entrepreneurial research may be able to borrow from other findings in the humour literature. Kirznerian thought suggests that entrepreneurial opportunities result from past entrepreneurial errors. Little research has tackled the nature of these errors, or why they are made. However, humour research suggests that some jokes involve incongruities that are never completely resolved, but that in order to appreciate the humour, one must be willing to acknowledge an incongruity while still setting aside others, perhaps resulting ones. Consider the following joke:

Why did the elephant sit on the marshmallow? Because he didn't want to fall into the hot chocolate.

Rothbart and Pien (1977) remark that this riddle presents an incongruous situation, and the answer both explains (resolves) it and adds a new incongruity: The elephant is sitting on the marshmallow to keep from drowning. We may resolve one or more incongruities in a joke in order to understand or 'get' the joke, but additional incongruities remain. Here, we are left with an elephant adrift on a marshmallow, a situation that must surely challenge any knowledge of elephants and hot chocolate that we may possess. Thus, solving problems in the context of a joke frequently involves solving an incongruity at one level of the joke while suspending problem-solving faculties at a secondary level and enjoying the remaining incongruity. The punchline may afford partial resolution, but in so doing it creates new incongruities.

In much the same way, today's incongruity emerges after overly creative resolutions are made yesterday to prior incongruity; entrepreneurs may always be creating incongruities [see Sarason et al., (2006), p.289]. As described by Alvarez and Barney (2007, p.11):

...what if entrepreneurial opportunities were not like mountains, just waiting to be discovered and exploited. Suppose, instead that these competitive imperfections in markets were created by the actions of entrepreneurs.

These created competitive imperfections could emerge from incongruity resolutions that create additional incongruity (what one might call 'creational resolutions'), just like the marshmallow-sitting elephant who just happens to be floating in hot chocolate. Perhaps those not aroused by entrepreneurial incongruities are attempting to find a way of resolving that incongruity – and all resulting incongruities – at once. It may not occur to non-entrepreneurs to attempt to resolve only one of a multitude of incongruities at a time. After all, the entrepreneurial activity tackling one venture does not necessarily use up an entrepreneurial opportunity but rather creates many more entrepreneurial opportunities (Holcombe, 2003). And while existing entrepreneurial thought suggests that opportunities

are available to be created or discovered, little work has been done to examine the source of such human error. In an entrepreneurial world, errors or incongruities can be found not necessarily because people are *incapable* in the sense that they are underinformed or unintelligent but rather because people are *willing* to not solve them all at once, in fact sometimes creating incongruities. Like the elephant-in-marshmallow joke teller, an incongruity is resolved but in a slightly different perceived world.

Regarding theory, a focus on incongruity re-addresses both the Kirznerian concept of willingness or readiness to always be surprised (see, recently, Tang et al., 2012), as well as recent applications of regulatory focus on opportunity recognition (Tumasjan and Braun, 2012). In other words, perhaps the phrase “always willing or ready to accept incongruity as reality more than fantasy” should be used instead. First, the difficulty with willingness to be surprised is that – to some extent, taken at face value – this is paradoxical. We associate probabilities with any given contingency or future situation. Those always willing to be surprised may never show enough emotion to be aroused enough to take action. Finally, those always willing to be surprised may consider incongruities to be matter-of-fact, in which case incongruities would always make sense. ‘Willingness to be surprised’ is a concept that is likely too broad to be useful in the study of entrepreneurship.

While sense of humour may serve as a capacity to discover humorous incongruities on the way to entrepreneurship, via imagination (Felin and Zenger, 2009; Klein, 2008), play represents the predominant activity. ‘Play’ is a term employed in psychology and ethology to describe a range of voluntary, intrinsically motivated activities normally associated with recreational pleasure and enjoyment (Garvey, 1990). Play is often interpreted as frivolous and spontaneous, but it can also be structured, planned and goal-oriented (Huizinga, 1968). Yet, at the heart of the concept of play is the ambiguity involved [Sutton-Smith, (2001), p.1]:

... [C]lassical scholar Mihail Spariosu (1989) calls play ‘amphibolous’, which means it goes in two directions at once and is not clear. Victor Turner (1969), the anthropologist, calls play ‘liminal’ or ‘liminoid’, meaning that it occupies a threshold between reality and unreality, as if, for example, it were on the beach between the land and the sea. Geoffrey Bateson (1955), biologist, suggests that play is a paradox because it both is and is not what it appears to be. Animals at play bite each other playfully, knowing that the playful nip connotes a bite, but not what a bite connotes...

Humour, as covered in this paper, regards incongruity, a concept which generally represents a subset of ambiguity. Perhaps then it can only possibly be associated with a subset of all play. Regardless, the understanding of how humour and incongruity is maximised in play may hold additional clues about the organisational mechanisms or processes that can stimulate entrepreneurship.

Perhaps most interestingly, type of sense of humour may be related to likelihood of future entrepreneurship or type of opportunity discovered. Jokes based on superiority or relief themes can typically be re-interpreted and re-appreciated in terms of incongruity. Those that primarily perceive incongruity within such jokes may be better candidates for entrepreneurial selection or training than those who primarily or solely perceive superiority or relief as sources of the humour. Furthermore, those primarily perceiving incongruity may be more prone to derive the more radical innovations. Further research would have interesting ramifications for entrepreneurship education as well. Although

Kirzner (1997) remarks that entrepreneurs cannot search for information that they do not know exists, a social cue plus humour might lead to search for (any) hidden meanings.

All this considered, although the detection of incongruity can trigger search for resolution to that incongruity, this is certainly not the only possible outcome. Incongruity itself may give rise to interest (c.f. Hunt, 1963), curiosity (Berlyne, 1960) or humour, to confusion, fear (Hebb, 1946) or anxiety. Humour or interest is more likely than confusion or fear when a person has experienced heightened arousal but at the same time (or soon after arousal) evaluates the stimulus as non-threatening. Certainly, recent research finds that emotions like fear, joy, and anger can all affect entrepreneurial evaluation (Foo, 2011) and exploitation (Welpel et al., 2012). Whether or not humour in particular and entrepreneurial search are mutually exclusive or merely substitutive may require examination of the problem-coping literature [Heppner et al., 1995; Lazarus and Folkman, (1984), pp.33–34].

6 Conclusions

Although it serves as the entrepreneurship field's primary unit of analysis, 'opportunity' can often represent a vague, unwieldy concept. In attempts to help make sense of it, I turn instead to what has long been considered one of its symptoms: incongruity. Certainly, a claim of incongruity places a significant burden on an entrepreneur to prove. Because the structure and mechanisms internal to incongruity have not been widely covered in entrepreneurship, I borrow from the science of humour. Insights have been offered here to suggest when incongruity should be framed as part of an entrepreneurial problem (e.g., incongruity as symptom), or as part of the inventive solution (e.g., incongruity as precursor), and when the resolution of entrepreneurial incongruity will more likely lead to response.

Prospective entrepreneurs should be informed to realise that humorous and entrepreneurial mindsets can follow similar principles, based on the foundational concept of incongruity. An approach to incongruity drawn from humour science reveals the importance not only of incongruity but also of incongruity resolution. While incongruity can be either undetected, nonsensical (debilitating search in its tracks), or plausible (stimulating search), incongruity resolution can also be plausible or nonsensical, determining emotional response. Finally, approaches to incongruity which focus on incongruity resolution (such as a humour-oriented one) increase the burden of entrepreneurs to substantiate their ideas, compared to claims of opportunity discovery. Further research can still be done on what kinds of incongruity are most likely at the crux of valuable opportunities, and what kinds of personalities or backgrounds are best able or best matched to identify those incongruities and their resolutions.

By examining incongruity and incongruity resolution in the context of humour, we are bringing to the forefront a well-researched template that integrates cognition and emotion. While the entrepreneurship literature has delved into cognition for decades now, it has only recently taken 'entrepreneurial emotions' more seriously. For arguably the most part, these two conversations have been separated. While there is room for developing new theories combining 'entrepreneurial cognition' and 'entrepreneurial emotions' into a coherent framework, this will take much time and effort. The idea behind this paper has not been to suggest that the concept of humour is the 'silver bullet'

in understanding entrepreneurial incongruity, much less to say opportunity discovery. That said, as a first cut, the basic structure and mechanisms that lead to the experience of humour look notably similar to the basic structure and mechanisms that serve as a basis for the discovery of opportunity.

Ultimately, this conceptual article attempts to firmly and rigorously introduce the theory-based value of an approach that begins integrating both cognition (incongruity resolution) and emotion (the detection of humour) into identifying the symptom or precursor of an entrepreneurial unit of analysis ('opportunity') that is often considered not tractable. The concept of incongruity – cited decades ago as a symptom for entrepreneurial opportunity – has attracted almost no theory-oriented attention in the entrepreneurship literature while it is critically foundational to humour sciences. In other words, humour holds potential as a specifically useful, intuitive analogy to introduce to scholars looking for guidance in examining some of the possible 'mechanics' before opportunity is identified.

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Notes

- 1 Shane (2003) however suggests that some opportunities are valuable, and others are not. In that sense, the term opportunity not only confuses the perceived with the actual, but also the ex ante from the ex post.
- 2 Dimov (2007), for example, questions when something transforms from a mere 'idea' to an 'opportunity.' The same issue applies for all other definitions of entrepreneurial opportunities that use the word 'can' [e.g., Eckhardt and Shane, (2003), p.336]. Shane (2012) begins to make the distinction between 'business idea' and 'opportunity' more explicit.
- 3 Such distinction is particularly valuable, insofar that "sensitivity to problems or possibilities does not necessarily extend to generation of ideas for solutions to the problems; not everyone who is good at asking questions is equally adept at creating answers" (Ardichvili et al., 2003).
- 4 I thank an anonymous referee for making this point.