Uneasy Humour as Discovery: Collocation and Empathy as Whewellian Consilience

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This paper is respectfully dedicated to the memory of the renowned Italian mathematician and philosopher, Guiseppe Peano (1858 – 1932) of The University of Turin.

Abstract

In about 350 BC Aristotle committed to writing in one of his major works (Metaphysics) what may well be judged today to be the most enduring linguistic and philosophical paradox of all time. He states it as follows: 'The objects of mathematics are not substances in any higher sense than things. They are only logically prior, not prior in being, to sensible things. Mathematical entities can in no way exist on their own. But since they cannot exist in perceivable objects either, they must therefore not exist at all, or exist in some special way which does not imply independent existence. For 'to exist' can mean many different things.' (Aristotle, Metaphysics, 1077b 12-17). This paragraph demonstrates that the link between logic and metaphysics in natural language was not only sufficient to leave Aristotle confused to the point of reductio ad absurdum (‘they must therefore not exist at all’), but it is only satisfactorily solved 2360 years later by means of corpus-derived subtext and its consilience with the absent lexical collocates of the given. Computers do not suffer from intuitive opacity. They furnish a method, in the interests of induction, for separating the logic of full sentences from their metaphysics. The product of this activity gives rise both to verification and to uneasy humour as diverse theories of their own accord leap to one another's assistance.

Keywords
codes and ciphers, collocation, consilience, corpus, discovery, instrumentation, intuitive opacity, laughter and tears, logic, metaphysics, method, natural language, subtext (corpus-derived), telos, theory, verification principle.
1. Introduction

Because induction unfailingly takes the investigator well ‘beyond the information given’ (Bruner, 1974), there will always be a category of quasi-politician that wonders where the information came from and questions the wisdom of its being made generally available to mankind in an unrationed state (see Popper, 1945). Popper’s two-volume treatise is entitled, The Open Society and Its Enemies. Even at the time of its publication it was accompanied by some derisive humour: Popper’s students at The London School of Economics [LSE] routinely added the words ‘… by one of its enemies’. But the most classic and tragic example of the phenomenon of data-assisted inductive reasoning and its continuing bizarre consequences in our time saw the untimely death of Alan Turing (1912 - 1954), who was simultaneously the war hero of Bletchley Park for his role in breaking the German codes in December 1942 and the inventor of the digital computer. His persecutors had come to believe their own propaganda to the effect that computers would be ‘thinking machines’ rather than simply the kind of computer we would want them to be (Turing, 1950 [1964]: 7). Turing thought that mathematics alone might break the enemy codes, because even before Bletchley Park was set up for the purpose of code-breaking as its first priority, some codes had yielded to mathematical analysis as much as ten years earlier. But, to some extent, war documents also come imbued with the ideology of war; and the discovery of their extant cues in the text requires both more than a shot in the dark and less than an ability to solve crossword puzzles. Their dialogic nature, once discovered, may well have accounted for the structural aspects of Turing’s ‘Imitation Game’.

But, what brought about the knee-jerk decision that Turing needed to be stopped and done away with, after his huge success? It was probably the sudden appearance of empirical evidence delivered with the intensity of a fire-hose, all of which entailed the ‘given’ and to much of which human intuition was ‘blind’. Human intuitive opacity simply made matters worse. Those in power who believe that their role is to act as the custodians of secrecy are appalled to find that the results of computing almost always exceed the nature and scope of what they thought they were guarding. All human beings suffer from intuitive opacity. Computers do not. Karl Popper’s assertion that science advances by means of serial falsification always comes as a surprise to those who are not equipped computationally for dealing with a new discovery, and the surprise is especially troubling if those who believed that they were in charge of the rationing of
truth find that computers have placed in the public domain details of which even they, the guardians, were unaware. Corpus findings are proletarian. They cannot be crafted to serve pagan power.

Turing’s stated aim was to produce an ‘Imitation Game’, i.e. to obtain dialogic evidence from a computer that would look so much like a human response that its true aetiology would be impossible for a human subject to judge. Sadly, even this honest objective failed to curb the activities and plans of his persecutors. Remember that the recent movie on the subject (The Imitation Game) opens with Turing attempting to gather up from the floor of his study, crystals of potassium cyanide! Now that computers, acting below the level of human intuition, have access to large reference corpora, the situation is likely to get worse even before this potential for spotting fake institutions and freeing prisoners goes viral.

Was the source of Turing’s persecution as simple as we have been led to believe? Or were there within the scientific community powerful movers whose perceived main interest was to safeguard a status quo whose intuitive boundaries were suddenly found to be out of kilter with the boundless evidence that poured out of machines? Notice also that we are asking this question on the very eve of a ‘game-changer’: the point has today been reached where predator drones will not only ‘decide’ (sic) who lives and who dies, but whose bosses may just as easily themselves become the target of ‘friendly fire’. This may be a tragic development, but it is not devoid of humour of an unpleasant and unsettling kind. It is reminiscent of Frankenstein’s monster.

The answers to these questions are deeply embedded within a variety of research areas: ethics, the philosophy of science, corpus linguistics, the nature of discoveries and the manner in which science advances. Of the latter area, Popper declared that science advances by means of serial falsification; but even he occasionally faced personal deadlock as to which theory was better, Newton’s or Einstein’s. Popper never advanced the suggestion that settled knowledge offers the telos to the dilemma. If and when instrumentation as telos follows discovery we find that philosophy lets go and hands such instrumentation over to science. This move may be noisy as was the case with Hiroshima and Nagasaki, or it may be quiet as Einstein triumphs posthumously as the inventor of GPS.
2. Computing and consilience

Philosophy is in large measure the study of inference. In many ways computers speed up the process of inference because the concordances not only lay bare the nature of events but demonstrate the extent to which outcomes are probable. Their subtextual use also provides situational details such as empathy, which was hitherto thought impossible for computers to find (Louw, 2015; Louw & Milojkovic, 2016).

Computers and textual empiricism gave us a revolution in the manner in which all dictionaries are written today (Sinclair, 1987; 1995). This process uncovered the huge disparity between intuitive and digital approaches to lexicography. As part of this process, delexicalisation alone accounted for a form of uneasy humour. Analogue dictionaries based upon intuition contained only 8 or so separate entries for the word take, whereas the first edition of the Cobuild dictionary, which drafted itself in Birmingham one Saturday morning in 1987, had almost 90 separate entries for the same form! Lexicographers gawped at the screen and laughed nervously at a new form of accuracy that had already begun to take away from them what they still saw as their jobs! The experience of the first edition of this new type of dictionary must have been not unlike the experience in the run-up to Christmas at Bletchley Park in 1942 in which past present and future sprang together as part of the Consilience of Induction (Whewell, 1860; Buchdahl and Laudan, 1967). Consilience, from Latin, con+salire means a leaping together as theories that are apparently from the entirely different disciplines of logic, mathematics, syntax and collocation, all mero motu cross-validate one another, allowing they did so at Bletchley Park, consilience to mark the beginning of the end of World War II. The very linguists that we see Turing in the movie obtaining the permission of Churchill to sack, (one of them in reality the Scottish linguist Angus McIntosh) [personal communication John Sinclair], come through with the main ideological statement common to all secret German codes, irrespective of the fact that each code only lasted 24 hours. Collocation provided the Enigma machine with Firth’s (1957) famous dictum, altered for the purpose of code breaking: ‘One meaning of Hitler is its collocability with Heil!’.

Today, no dictionary is written according to analogue principles. All of scholarship was impressed by the fact that collocation had been used as instrumentation to create entries in a dictionary that human intuition had missed. But there was more laughter in store, only this time not of the kind where lexicographers chuckle to themselves. The sudden knowledge of the exact location of each German ship and of its immediate intention, at that very hour, to attack named
ships of the Allies, created the rare mixture of laughter and tears. It was a burning secret and an addictive one. That tool’s first casualty, within a matter of minutes, took the form of the brother of a member of Turing’s own team. His brother was aboard a doomed ship and any attempt to save him might have alerted the enemy to the fact that its codes were now in tatters. But the laughter had the effect of attracting both praise and suspicion. Could computer-assisted collocation as induction be developed into something that might put an end to the very ability to conceal untruth? Would Louw’s paradox to the effect that if telling lies were to be made scientific the result would be that the tellers of lies would find themselves telling the truth about themselves and about the external world? Could lies that are waiting to be uncovered be dealt with as easily as those that are still at the planning stage? Suddenly inductive reasoning, which had itself been seen as a joke in analogue terms (e.g. all swans are white until black swans were found in Australia), came of age in the digital era. It took mankind not only beyond the information given but beyond any experience that had been hitherto impossible for a single individual within the space of an individual lifetime. Induction as collocation reveals hypotheses about rare events: even the repeatable structures of suspect financial events that are deliberately spaced to fall outside of and beyond the lifespan and memory of human beings can be reconstituted from reference corpora by ordinary civilian investigators who want to test a hypothesis. Events with a period of recurrence as rare as that of Halley’s Comet can be reconstituted by sentient human beings who have nothing more than a hunch to guide them. Russell (1948) and Grayling (1996) point out that such knowledge is necessarily prior because even animals experience it. Humour that is born of instinct was suppressed during the analogue period, but it will flourish as easily as a new form of literacy in the digital era. Its suppression merely turns it into a personal code. Why should eyes for Sylvia Plath be bald? If the only way to open my email server that has been unlawfully shut involves clicking on a weather report, is it any wonder that I tell my co-author that I will write to her later, ‘weather permitting’? Even Turing’s method cannot crack the codes born of persecution. The new belly-laugh involves shouting Goal! as a deliberately blocked message travels and reaches its destination. The blockers are identified as analogue souls by the very machines that they use in order to gather intelligence that leaks! Intelligence gathering by human infiltration may need to return in order to reverse the situations caused by the use of machines that murder. Finding that one has hosted a traitor is amusing in its wry manner. It is persecution that causes forms of secrecy that are deeper than telephone surveillance can detect.
3. Opacity as the starting point for discovery and consilience

And so we need to ask ourselves whether the humour of discovery is less expected than the humour of contrivance. For example, instead of proceeding to discover what we already know, such as that ‘…one meaning of night is its collocability with dark…’, ought we not to be discovering the very logic of what is involved in every search. If we coselect night and dark, we find something fairly weak to laugh about. For example, we discover ‘the dark night of Thatcherism’ as one of the citations; but suppose we interrogate the full subtext of Firth’s definition? One meaning of night is its collocability with dark. What do we find if we ask a reference corpus to produce the lexical variables of the skeleton of his definition: is its * with *? Because it is opaque to our intuition, we prepare ourselves like Turing for encountering the unknown as we hit the key marked Enter. But if we are cognitivists we merely seethe with rage about a career that can no longer rise much above its chosen new classification as guesswork.

MicroConcord search SW: is its * with *
80 characters per entry
Sort : 1R/SW unshifted.
1 er in section 3.6. </p> <p> One is its association with the rather questionable
2 er feature of the rural economy is its relationship with urban labour markets. T
3 everal attractive features. One is its con&rehysonance with what is generally ac
4 has come through to the public is its preoccupation with sex. The idea that dre
5 inguishing feature of the model is its concern with the secular development of t
6 e developed from these sketches is its interaction with social forces – literall
7 ion). At the deepest level this is its symmetry with the social order within whi
8 eat strength of 123 For Windows is its compatibility with all the earlier versio
9 has come through to the public is its preoccupation with sex. The idea that dre
10 along a bay. What sets it apart is its situation, with the massive range of the
11 set the TG100 apart. The first is its conformity with the General MIDI Specific
12 p> A common image of later life is its association with residential care an
13 integral part of Eo's strategy is its partnerships with the companies, it says,
14 st strength, on the other hand, is its compatibility with Windows. It's a streng
15 n important feature of research is its concern with the nature of the event unde

(Source: The British National Corpus)

So, what kind of laugh, if any, do we get from this amazing result? Well, we laugh at the inadequacy of our intuition, of course, but the main laugh is one of satisfaction. We laugh at the persecutors of Firth and we laugh at the inadequacy of intuition, but most of all, we laugh at the fact that collocation assists consilience, because collocation is markedly different in meaning when compared with the other variables in this concordance. Collocation is, as we see in the
concordance, *endocentric* and hence capable of being instrumentation for language (Louw, 2007a). It operates *within* language as a system (in spite of Godel’s misgivings and to the detriment of his criticism of Russell), whereas all of the other variables that appear in this concordance are *exocentric*. They operate outside of language. We laugh at our sceptical colleagues who criticised our use of the term *instrumentation*. Collocation leaps over disciplinary boundaries to verify other theories. That is how consilience works. But we jump for joy too because even the OSTI Team missed the ‘banana peel’: collocation works faster because as Firth was the first person to state, it is ‘…abstracted at the level of syntax.’ In other words, proximity is *prior* to the rules of syntax (this fact is probably more prominent in the pictographically written Chinese Language than in English). One meaning of the term *Hitler* is its *collocability* with *Heil*. Another meaning of the term *Heil* is its *collocability* with *Sieg*, and yet *Sieg* and *Hitler* in the absence of *Heil* collocate, but only more weakly. The Idiom Principle of John Sinclair helps us to explain this.

But as we study the concordance we uncovered earlier, we need to recognise the uniqueness of what we have just done in order to obtain that concordance. Almost all corpus searches were and largely still are based upon our *intuitive* preference for selecting items of *vocabulary*, or in philosophical terms, *metaphysics* in our search-line. But, in this particular case, as we set out, we really ought to notice that the mindset of our subtextual search is very much like that of Turing, who was searching for variables that he could not see in his attempts to break a code; and finally an inductive search for **** ****** (both terms with their first * in upper case) in the hope of finding Heil Hitler in each and every newly presented code, may well have broken the codes. The German codes were changed at midnight every night to produce a new code for the Enigma machine. And finding, as we saw in our concordance, that grammar strings have lexical collocates, a large number of the philosopher-academics that were assigned to Bletchley Park, embarked upon the study of *induction* out of silent respect for Alan Turing when they returned to their offices at the end of the war in 1945. Professor Jonathan Cohen of Oxford University was one of these academics. He switched to the study of induction in science, and this was stated fully only much more recently, in his obituary in the Oxford University Magazine. Angus McIntosh researched collocation almost exclusively after his period as a member of the code-breaking team of which Turing was appointed head. After the war he inspired J.R. Firth to work on collocation also. However, forms of largely latent persecution began to follow all researchers in collocation. They must now, legally, be discontinued because the 70 year embargo
against collocation’s role in the war has run its course. It may yet turn out that all researchers themselves will need to brush this silent embargo aside in the interests of making induction more scientific; but the ferocity of this silent war on academics can never be doubted. There is no *Cobuild Dictionary of Collocation* and that fact must now be the best documented example of the apparent use of ‘influence’ to defeat collocation. Only researchers can defeat this onslaught on science and the advancement of knowledge. Ending the Silent Treatment needs to become more vociferous.

The most likely reason for the existence of the ‘curse’ on collocation in the first place was probably that in December 1942 both Britain and Turing could see no good reason for sharing collocation with the USA: an ally that had not yet shown the slightest indication of an intention to join the war against Germany. Turing was more patriotic in this regard than many gave him credit for. We are informed very precisely that Turing (who had already taught in universities in the USA) kept his American colleagues informed of developments in the area of mathematics as they affected codes and ciphers (Hodges, 1997: 52), but he seemingly made no mention of the inductive role of collocation as part of the search for ideological evidence in war documents. A further reason for this was that Turing had asked Winston Churchill for permission to let go all of the linguists in his team in Bletchley Park. Churchill agreed. Nobody expected consilience *by and from* collocation to save the day by turning Turing’s ‘bombe’ computer into a greater form of instrumentation than we have been allowed to witness since the decoding drought of WWII was brought to an end. Even by the time of his death in December 1960, Firth had not shared collocation overtly with his esteemed American colleague Roman Jakobson (see his article in Bazell et al, 1966). In his article, Jakobson refers to the fact that Henry Sweet (who may have been Shaw’s model for Henry Higgins) had suffered persecution. But a 1000 page manuscript that had already been advertised by the publishers as ‘forthcoming’ disappeared from Firth’s study on the night of his death (14th December, 1960) (personal communication F.R. Palmer). No national move was made to commemorate the 50th anniversary of Firth’s death in 1960.

However, of one fact there can be no doubt. In the same way that subtext is recovered by *trusting the subtext*, in modern corpus stylistics, (Louw, 2010a; 2010b & Louw and Milojkovic, 2014; 2016) and searching for wildcarded strings that are opaque to intuition; so also are codes cracked by reducing the words Heil Hitler to sequences of wildcards, with capitalization and a space. Michael Dummett (1993) claims that the philosopher and logician Gottlob Frege was unable to bring to fruition the Context Principle in a workable form in mathematics. However,
his attempts were improved upon by Russell through the work of Peano to the point that the latter’s approach to inductive probability contained only three postulates as compared with Russell’s five (Russell, 1948). The corpus alone allows us to find all of the empiricism of any vocabulary item. This allows us two further significant steps in taking our research to a new level: (1) We need not reject the given because it has been separated from its context (but by maintaining this approach, the full recovery of all of its empiricism will be on a monumental scale, rivalling the writing of an entry in the Cobuild Dictionaries); and (2) any expression can be strengthened inductively by an appeal to its empiricism. Paul Simpson (2013) in the second edition of his textbook *Stylistics* cites my example of natural justice as a case in point. In court cases that are published in newspapers, we find that the collocates of this term are predominantly denied, breached and contrary to the principles of. However, legal textbooks simply adopt its intuitive meaning and in doing so apparently obfuscate the fact that its intuitive meaning does not necessarily apply in the context of court cases and the reporting of them in newspapers. But if instrumentation is our aim, contexts of situation and of culture are an important and prior parameter: in Wittgenstein’s terms, meaning is use! If intuition lets us down, especially in extremis and in court, then it is time to abandon it in favour of proven empiricism rather than through the schematic structure of the given as Quine (Lepore, 2013) would have us imagine. Concepts are meant to explain data; but enough data is capable of revising faulty concepts by taking them through 180 degrees from apparent p to provable non-p. Lepore sees Quine’s cognitive structure as ‘…vast and exquisitely ramified…’ and makes no concession to the manner in which corpora might simplify it by overcoming the barrier of human intuitive opacity.

4. How reliable is consilience and why have we not heard of it?

Let us begin with the second part of the question. If consilience is confined to scientific discoveries, then we ought not to be surprised if we have a long wait until one comes along. Discoveries bear no resemblance to the number 23 bus. Russell once remarked in a radio broadcast that he had made disappointingly few discoveries. His philosophy made progress by discussing matters with others. The list is long and impressive: Lawrence, Keynes, Conrad, to name only a few, but Moore, Wittgenstein, Frege and Peano were all consulted within and about philosophy. The most durable and salient aspects of Russell’s philosophy are clearly set out by Ayer (1972).
And yet, on the matter of reliability, William Whewell [pronounced hju:l] had no doubts because important discoveries were confirmed by consilience. Ironically, Whewell must have inspired either envy or hatred or both in Russell, because Whewell was the one academic that all members of the academic staff at Trinity College Cambridge had to live down: the prophet in his own country. The fact that he had brought induction closer to the status of science, must have rankled for Russell, whose entire volume *Human Knowledge: Its Scope and Limits* (1948) was devoted to induction and received with indifference. It remained largely unremarked until 2009 (Louw, 2009) when Russell’s *postulates* were pressed into service to free Simon Mann. Whewell is not referred to at all in Russell’s *History of Western Philosophy*, a 700 page volume that effectively won for Russell the Nobel Prize for Literature in 1950. Of Whewell Mautner writes this:

“…science proper proceeds by the hypothetico-deductive method, rather than mere inductions. He also argued that one path of progress of science is through the incorporation of several known laws from different fields into a single, more comprehensive theory, as Galileo’s and Kepler’s laws had both been incorporated into Newton’s theory. Whewell called this ‘consilience of inductions’ and claimed that no theory which achieved it had subsequently been found to be false.” (my emphasis) (Mautner, 2005: 654)

Hence, if we are arguing for one-off discoveries such as the Global Positioning System [GPS], we find today that it is derived from theories stated in mathematics and physics by Einstein. Whewell was involved in the unravelling of a large number of scientific discoveries and only the most impressive of these evinced consilience conclusively. Hence, if we find consilience within and between collocation studies and, say, syntax or even code-breaking, we will have every right to claim that we are dealing with instrumentation because of Whewell’s assertion that ‘…no theory which achieved it had subsequently been found to be false.’ I first made this claim at the University of Granada on the 7th July 2004 as part of the closing keynote lecture at TaLC6, but at the time I was blissfully unaware of Whewell and his claims for the power of consilience.

In this regard, a particularly fruitful collection of superinduced ‘concepts’ can be shown to subsist, all of which point to consilience between collocation and context of situation (Firth, 1957; Losee, 1980: 126). In fact, a diagram has been produced by Losee to demonstrate how consilience operates across the theories of Copernicus and Kepler.
As part of the stratification of such diagrams, Whewell provides the term *Colligation of Facts*. Firth (1957) adopts the term *colligation* to refer to the rigid adherence of syntactic sequences; and implies in doing so that collocation can sprout wings of abstraction to leap over such controls. Sadly, far too much attention is devoted to the pedestrian syntactic of colligation, to the point that it is often finally used to disguise the power of collocation and to decampaign it by means of the sheer boredom generated by the way in which the term is used by Hunston and Francis (1998) and Hoey (2005). Colligation and collocation have wrongly been seen as ‘twin ducklings’ with the intention of downplaying the power of collocation. Losee’s diagram is on a small scale and proceeds to *number* rather than *state* the laws involved. However, a diagram that disproves Xiao’s intuitive statement that my assertion that ‘text reads text’ has the status of a mantra (see his review of the textbook on Corpus Linguistics of McEnery and Hardie, 2012) draws in quite readily substantial amounts of my recent research of which he may well be unaware.¹ The fact that subtext uncovers *empathy* in the absence of all lexical variables of a shared logical form settles the matter (Louw, 2015; Louw & Milojkovic, 2015). Collocation, syntax and context all *simultaneously override* our and Xiao’s intuitive opacity as we take Sinclair’s exhortation to *Trust the Text* to the newly attained level of proven instrumentation in ‘Trust the Subtext’. The concordance we viewed earlier prepares us for this realisation. My

¹ Upon the submission of this paper, the author learnt, with great sadness, from an announcement on the Corpora List, of the death of Richard Xiao in January 2016.
experimental use of the Imitation Game to prove the manner in which shared logical form produces corpus-derived empathy is incorporated as a law in the diagram below. It has the status of a law because all subtextual searches produce concordances, each line of which has the same logical form. Such searches enable consilience because the concordancer itself acts as a computational version of Ockham’s Razor. The shape of the diagram below indicates clearly that we need mentally to provide the inverted triangle used by Losee (1980: 126) for focusing upon how consilience evolves from the inductive links between such laws irrespective of their theoretical origins and degrees of abstractness. The reader is asked to visualize the diagram below as forming an inverted triangle along the lines of Losee’s diagram.

![Diagram](image-url)

**Table 1. An Inductive Consilience Table for ‘Text Reads Text’**

<table>
<thead>
<tr>
<th>THEORY</th>
<th>FACT 1</th>
<th>FACT 2</th>
<th>FACT 3</th>
<th>FACT 4</th>
<th>FACT 5</th>
<th>FACT 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text reads text computationally (Louw and Milojkovic, 2014, 2016)</td>
<td>All devices relexicalize...</td>
<td>All collocates relexicalize in a sentence...</td>
<td>Hidden collocates relexicalize those of the given...</td>
<td>The logical operators in a sentence are truth-constant...</td>
<td>The logical operators in a sentence have lexical collocates: some hidden, some extant in the given...</td>
<td>Lexical collocates of logical operators are prior and immune to change and have a frequency of occurrence...</td>
</tr>
</tbody>
</table>

**LAW 1**

Lexical collocates both extant and hidden relexicalise

**LAW 2**

Logical operators in sentences are prior, truth-constant and have their own lexical collocates whose frequency and immunity to semantic change will be computationally determined

<table>
<thead>
<tr>
<th>FACT 7</th>
<th>FACT 8</th>
<th>FACT 9</th>
<th>FACT 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>The most frequent lexical collocates create depth in relation to infrequent lexical collocates or hapaces...</td>
<td>The most frequent lexical collocates will ‘read’ infrequent collocates situationally (Firth, 1957)</td>
<td>The manner of this reading will be a form of empathetic interrogation; as in an Imitation Game (Louw, 2015)</td>
<td>This is not a (sic) mantra (Xiao, 2012) but an instance of text reading text under specific conditions such as, <em>inter alia</em>: (a) shared logical form, (b) a disparity of frequency between the reference corpus as ‘reader’ and the given as ‘read’ etc.</td>
</tr>
</tbody>
</table>

**LAW 3**

Lexical collocates both extant (in the given) and hidden are put in play within a sentence.

**LAW 4**

Depth sparks consilience of induction between natural language logic and metaphysics (Whewell, 1847: 14[vol 2].
5. Some characteristics of uneasy humour

The laughter associated with consilience is almost always directed at some breach of logic by an influential person or power. It is instantly resented and often attracts retaliation of unwarranted severity and of an entirely personal kind even from respected institutions. Institutions like banks are often considered ‘too big to fail’ and often reward their internal wrong-doers with bonuses. The proofs of consilience usually spark off a series of secret meetings in which the discourse runs along the lines that the deception cannot be admitted to because too much has been spent on crafting it: ‘We have put far too much attention, planning, care and money into the TRC to allow it to fail on a point of precedent and justiciability. We proceed as planned and simply refuse to comment on proofs that question its authenticity. Is that agreed?’

Table 2. Table of humour as consilience

<table>
<thead>
<tr>
<th>Dialogue. Numbered Examples.</th>
<th>Humour as Consilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Roffeni ejects Galileo from Bologna</strong></td>
<td>Professor Roffeni loses face as Professor of Astronomy at the University of Bologna (established 1088.) Galileo reacts by delivering telescopes as gifts to other universities, starting with Perugia and Florence. Roffeni is made a laughing-stock and loses credibility and <em>locus standi</em> (see Kitcher, 1993).</td>
</tr>
<tr>
<td>“Professor Galileo, during the day and focussed upon the land, your telescope is a <em>truthful</em> telescope, but at night, focused upon the heavens, it is a <em>lying</em> telescope, showing many more stars than we know from previous observations to be there.” Galileo is removed from the campus of the oldest university in the world.</td>
<td></td>
</tr>
<tr>
<td>2. <strong>Benz and Daimler persecute von Diesel</strong></td>
<td>Their words betray their ignorance of the physics and the chemistry of Diesel’s prototype. They tell him that his engine will never be a commercial success. Diesel takes his own life, but has the last laugh because today ships, trains and vehicles both heavy and light use the engine he invented. We</td>
</tr>
<tr>
<td>They inspect a cylinder of Diesel’s engine and declare: “We cannot see the sparking plug or the distributor!”</td>
<td></td>
</tr>
</tbody>
</table>


### 3. Court dialogue

**Judge:** What is your client’s prayer?

**Counsel:** Natural Justice, My Lord.

**Judge:** Noted.

**Client:** But, in fairness, if its main collocates are: Denied, breached and contrary to the principles of … why should I opt for it? It looks like a Trojan Horse! (laughter from the gallery)

**Judge:** The Client is represented by counsel and may not interject. If this continues I shall clear this court and hold the Client in contempt.

### 4. Newspaper Report 1

**Reporter:** “But if the same plane was used to ‘regime change’ President Aristide and launch a coup d’etat in Equatorial Guinea, are these apparently separate events not part of the same event?

### 5. Newspaper Report 2

**Reporter:** “If Roman Dutch Law in South Africa, depends, for its legitimacy upon precedent, and if no evidence can be found for the existence of a prior legal relationship between Truth and Reconciliation, then in such a jurisdiction, a Truth and Reconciliation Commission [TRC] can, in question the motives and ethical stance of those who brought him to suicide. We laugh at them. He is vindicated. Electric vehicles may soon face a similar dilemma.

The term *natural justice* can only be falsified by the empiricism of its collocates. As these stand, they may constitute a corrupt *modus operandi* (Simpson, 2014).

Similar evidence was used in an attempt to free Simon Mann from prison in Equatorial Guinea in 2009. This detail provokes laughter at those who apparently crafted an apparent conspiracy that may incriminate individuals and governments. (Author, 2003)

Archbishop Tutu reacts with apparent indignation. But the TRC apparently makes the decision to soldier on regardless. Most similar Commissions are since 2003 simply called Truth Commissions. Their status as precedent is dubiously perched upon the prototype South African TRC. The reputation of such commissions suffers as a result of the humour
6. Priestley discovers oxygen

**Detractors:** But, Professor, you have simply discovered *phlogistonated air* and not *oxygen*!

Priestley plunges a white hot iron bar into a gas jar full of oxygen! It explodes into flame and burns, leaving a residue that is later shown to be iron oxide! The consilience of the laws of chemistry proves to be stronger than mere conjecture. The detractors are laughed to scorn, but they caused uncertainty for several months until their entirely verbal and unsupported claims were falsified.

Phlogiston was averred to exist independently of any evidence for its existence. Laughter established Priestley’s discovery beyond doubt.

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6. Conclusion

Whewell’s briefest definition according to Laudan (1981: 164) reads as follows: ‘The Consilience of Inductions takes place when an Induction, obtained from one class of facts, coincides with an Induction, obtained from another class. This Consilience is a test of the Theory in which it occurs.’

It is along these lines that Whewell sets out his theory of how science progresses. Whereas Popper settles for serial falsification, confessing his inability to choose between the theories of Newton and Einstein, Whewell measures advancement in science by the way in which consiliences spontaneously draw truth from different classes of facts. Laudan quotes Whewell as follows:

‘The Consilience of Inductions takes place when an Induction, obtained from one class of facts, coincides with an Induction, obtained from another class. This Consilience is a test of the *truth of the Theory in which it occurs*. (Laudan, 1981: 164) (my emphasis)

Now it will be plain that the conditions under which consilience occurs will always be natural, while retaining many of the elements of *experimentation* of a kind that characterises what Popper refers to as ‘strenuous tests’. But the issue which settles the fact that Whewell is to
be preferred to Popper is Whewell’s insistence that where consilience occurs, the area of study involved thereafter becomes *settled*. And it is this fact that carries with it the possibility for deriving *instrumentation for language* from moments of discovery in science. Discovery of such depth has only recently been brought to stylistics and hence to language study. Lines in the poetry of William Butler Yeats which even the poet feels are so obscure as to warrant the provision of hints to the reader are readily unpacked by the principle of ‘text reads text’ as this is validated by the procedure I developed for determining subtext. The reason for this validation is that it parallels the reading process in natural text: *all and only* the possible variables of the lexis of the wildcarded given can have a role in the reference corpus’s ability to read that given. The reading subsists within the most *frequent* variables as they relate to those in the given and empathy between the two subsists within the fact that they inevitably share the same logical form.

And so it is that ‘That is no country for old men.’ As the given in the opening line of ‘Sailing to Byzantium’ expresses in the form of a semantic prosody the poet’s complaint that England is an unsuitable habitat for old men (a class which includes the poet). The most frequent variables REASON and EXCUSE take forward the narrative which results from the poet’s having sailed from there a mere 14 lines later. It is this notion of *depth* provided by the disparities between the frequencies of the variables in the corpus and those in the given that Russell (1903) explores in *The Principles of Mathematics*. It accounts through consilience, using the empiricism of reference corpora, for the fact that the meaning of *ladder* in ‘Now that my ladder’s gone…’ in The Circus Animals’ Desertion is not a wooden object but the woman who rejected Yeats’s proposal of marriage, Maud Gonne (Louw & Milojkovic, 2014). What was referred to as *necessary* meaning has its necessity proven through the discovery through access to reference corpora of *all* of the variables of ‘Now that my… is’, in precisely the same way that we saw earlier that *natural justice* has collocates that presage further suffering on the part of those who opt for it in court. Whewell was operating in the pre-computational era, but his statement of *his inductive formula is both clear and impressive*:

> These particulars, and all known particulars of the same kind, are exactly expressed by adopting the Conceptions and Statement of the following Proposition.’ (1847: 88)

Laudan sets out what he believes to be the circumstances under which consilience occurs and expresses the opinion that Whewell’s aim in using consilience is always conjectural and a means for maximizing ‘… the conformation of a hypothesis’ (see also Butts, 1989).
He suggests the following three circumstances under which consilience occurs. They are in point form and I conclude with a brief commentary and examples from the present day use of collocation as induction.

1. When an hypothesis is capable of explaining two (or more) known classes of facts (or laws);
2. When an hypothesis can successfully predict “cases of a kind different from those which were contemplated in the formulation of our hypothesis.”
3. When an hypothesis can successfully predict or explain the occurrence of phenomena which, on the basis of our background knowledge, we would not have expected to occur. (Laudan, 1981: 165).

Commentary on the points and situations above:

1. I have already commented on the consilience of the orders of war and of ideology as Turing and his team broke the German codes in 1942. Other examples would include the frequency of organized events involving the use of mercenaries; and, the absence of a prior association of events involving Truth and Reconciliation.

2. The irony in 1942 that the linguists’ use of collocation would provide ideological consilience as a context principle alongside mathematics and logic which Frege, according to Dummett, was unable to provide in a workable form. In a sense, the phrase Heil Hitler! was predictable in military codes. Seeing more stars through a telescope than with the naked eye was predictable.

3. The element of surprise is possibly the most exciting and humorous dimension and is potentiated by the spontaneous and speedy way in which different theories rush together almost unbidden and of their own accord. The sense of humorous surprise involved in discovery is unique largely because its consequences and the knee-jerk reactions of the powerful were difficult to predict. The advent of a rival to the internal combustion engine would have been less easy to predict. Those who crafted the TRC were fully aware that its role was to exonerate a racist white regime. The result of the Biko appeal settles this. The only public expression of shock came from Archbishop Desmond Tutu, who had apparently been briefed to the effect that only the legal profession was aware of the flaw and that its members would remain silent about it. The element of humorous surprise is common to all of the examples. Humour seems both to favour consilience and also to flow from the catharsis it produces.
All that remains to be said is that wherever unexplained or hidden meaning is to be found, collocation as induction is likely to offer a form of instrumentation for meaning for unravelling it. The notion of Consilience of Inductions is overdue for being made computational within linguistics, especially if the latter discipline is ever likely to attain the status of Science that dictionaries had erroneously accorded it long before the advent of the computer. Linguistics will never be a science until Philosophy accepts the role of collocation in Consilience and hands the entire phenomenon over to science. Once this step has been taken, Linguistics will feel compelled to drop intuitively derived analogue theories and accept the development of instrumentation for language as it has emerged from and through Contextual Prosodic Theory and corpus-derived subtext as its new after-path or method.

References


