

## Relevance: communication and cognition and...?<sup>1</sup>

Anybody can play. The note is only twenty per cent. The attitude of the motherf\*\*\*\*r who plays it is eighty per cent. Miles Davis

### 1 Introduction

Joanne has been studying the piano for many years. She sight-reads proficiently and can play from memory Bach's *Prelude in C*, Debussy's *Clair de Lune*, several of Handel's dances and other pieces. All the notation is there, played at the right time and in the right combinations. She plays the notes with the right stresses, timings and rhythms. But the resulting sound is unlistenable. It's jarring. It's not music.

Why? Put simply, music is about much, much more than mere notation. There is a "something else" that accompanies the notes and the combinations and timings of those notes that make music. Miles Davis famously estimated this "something else" to be responsible for eighty per cent of what makes music musical: he called it *attitude*. Musicians I know generally refer to the *feel* of a musician or a performance. As a musician myself, I am in absolutely no doubt about this and nor are any of my musician friends. The only thing we know, other than the fact that it exists, is that it can neither be properly pinned down nor defined: it is ineffable.

The existence of an artistic "something else"—felt by either the creator or the experiencer/audience—and which simply can never be 'put into', words is by no means unique

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<sup>1</sup> I would like to thank Deirdre Wilson for ongoing fruitful discussions. Deirdre has always encouraged me to follow my intuitions and that has been one (among many) valuable life lessons she has taught me. Needless to say, my intuitions may be wrong, and I take responsibility for all the errors that follow. I would also like to thank Tamlyn Adatto, Elly Ifantidou, Katerina Panoutsou, Ismaël Pozner, Mengyang Qiu, Louis de Saussure, Lemonia Tsavdaridou and Chara Vlachaki for interesting discussions on this topic and Louis Cornell for exploring with me the wonderful and frightening world of Gricean creature construction. I also owe a debt of gratitude to Ernst-August Gutt, whose unpublished 2013 paper has been a great source of inspiration.

to the production or interpreting of music.<sup>2</sup> It pervades all art: in many ways, it's what defines the creation or experiencing of a work of art in the first place. In *What is Art?* (1897) Tolstoy explores the spiritual “expression of feeling” that causes and results from both the creation and witnessing of great art. Collingwood (1938) refers to this something else as “imaginative creation”. In one of the most famous extended reflections on the issue, Proust (1922-1931) speaks of the realisation of a “deeper self”.

A full characterisation of this “something else” is currently beyond us and, naturally, lies far beyond the aims of this paper (indeed, I have been warned—by Louis Cornell p/c—that a complete treatment of the phenomenology of ineffability will inevitably lead to having to tackle what he calls “the thorny issue of the nature of religious experience”). But in recent times people working in philosophy and linguistic pragmatics have, nonetheless, grappled seriously with the ineffable, at least in the domain of intentional verbal communication. There have been a range of proposals concerning contents that are passed from a communicator to an audience but which cannot be broken down into representational meanings or propositions. Insightful philosophical contributions have been offered by Bezuidenhout (2001), Camp (2006), Kaplan (1999), Potts (2005, 2007ab), Recanati (1993) and Searle (1979), and contributions from the pragmatics literature include Blakemore (2011), Carston (2018), Cave and Wilson (2018), Kolaiti (2019), Longhitano (2014), Moeschler (2009), Piskorska (2012, 2016), de Saussure and Schulz (2009), de Saussure and Wharton (2020), Sperber and Wilson (2015), Wharton (2015), Wharton and Strey (2019), Wilson and Carston (2019) and Yus (2016).

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<sup>2</sup> An anonymous reviewer wonders whether my definition of ineffability is accurate, since propositional statements, such as compliments or insults, can have ineffable emotional consequence. The point, I think, is that being *caused by words* is not the same as being *put into words* or *described by words*. So, an utterance of ‘I’m leaving’ might cause someone a level of distress that can’t possibly be put into words. But it doesn’t follow from this that the speaker has successfully described that level of distress with words (even though the distress is, arguably, a perlocutionary effect of those words).

In one of the best examples from pragmatics—*Relevance Theory and Literary Interpretation*—Deirdre Wilson (2018) provides a reflective overview at the end of an excellent volume devoted to the application of relevance-theoretic ideas to literary studies. She maintains a view argued elsewhere: that the putative non-propositional nature of (among other things) ineffable literary effects is an *illusion*. It is a view dating back to Sperber and Wilson (1986/1995: 224):

If you look at these [non-propositional] affective effects through the microscope of relevance theory, you see a wide array of minute cognitive [i.e. propositional] effects.

In what follows I would like to question this claim. To me, much of what can't be said with words is not about thinking at all. Rather, it's about something more elemental. And if this is true, then—to my mind at least—it is not solely about propositions.<sup>3</sup>

Developing this account, Carston (2018) and Wilson and Carston (2019) suggest it be supplemented by an appeal to what is known as *mental imagery*. I would like to call this into question also. Many people report that they entertain mental images while they are processing metaphors. But many people don't, and this in no way prevents them from interpreting metaphors. I can entertain mental images. If, for example, you ask me to imagine myself on a Greek beach somewhere, I can. However, the term “imagery” affords the visual a degree of primacy over other kinaesthetic perceptions people may have. To me, imagining myself on a Greek beach involves equally the feel of the sand under my feet and the warmth of the sun on my skin; the smell of *chtapodi* drying in the breeze and lamb chops grilling in

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<sup>3</sup> I recognise that it does not automatically follow from the observation that something can't be described in words/sentences that it cannot be translated into concepts/conceptual representations (i.e. propositions). But I think the step from this claim to the claim that everything that appears to be non-propositional is propositional is a step too far.

the taverna, the sound of the waves lapping on the shore, the *çicadas* on the hillside, etc. And more important to the discussion at hand, I have no sense at all that this process is involved in my interpretation of metaphor. Metaphors wash over me like waves. I don't see anything, but I am not immune to metaphors. So, unless we want to argue that those who do not entertain mental images in the process of interpreting a metaphor are somehow missing something, mental images are not deserving of a role in accounts of metaphoric interpretation.<sup>4</sup>

In this paper I will try to add some flesh to the bare bones of these intuitions. I suggest that there might be another way of accounting for the non-propositional dimension to the interpretation of literature and artworks generally which need neither invoke a microscopic array of propositions nor any notion of mental imagery. Modern-day humans, I argue, have two apparently different modes of expressing and interpreting information.<sup>5</sup> The systems which reflect these two modes have evolved in humans and now co-exist: one of these systems is, in evolutionarily terms, relatively recent—a system in which propositional, *cognitive effects* dominate; the other is phylogenetically primitive, and involves direct, non-propositional effects. The latter type of effects, I will argue, come in two flavours.

In Section 2 I provide a brief overview of ineffability, as well as the relevance-theoretic view of metaphor and mental imagery. In Section 3 I introduce the two systems mentioned above and in Section 4 present an account of how my approach might complement the existing relevance-theoretic notion of cognitive effects. In the conclusion I introduce two ways in which non-propositional affects might be brought into the relevance theory picture. The first of these would be to accept that humans are much more than merely cognitive

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<sup>4</sup> Carston (2018: 198) remarks “mental imagery is not an essential component in the comprehension of language, whether literal or metaphorical, but it is often automatically activated in the minds of hearers or readers as a by-product of their linguistic and pragmatic processes”.

<sup>5</sup> I say ‘apparently’ because while two separate systems have evolved, it’s not possible in modern humans to separate them (any more than Darwin’s tubercle can be seen as separate to the rest of the human ear).

organisms. The second would involve a potentially quite radical rethink of what we mean by cognition.

## 2 Towards a ‘something else’

### 2.1 Ineffability

Few people doubt that much of what is conveyed by literature and poetry—indeed, music and artwork generally—is descriptively “ineffable”. What is conveyed is impossible to describe in words. In “What the light teaches”, a reflection on the centrality of language to the poetry of Paul Celan, Anne Michaels writes:<sup>6</sup>

- (1) Language is the house with lamplight in its windows,  
visible across fields. Approaching, you can hear  
music; closer, smell  
soup, bay leaves, bread—a meal for anyone  
who has only his tongue left.  
It’s a country; home; family:  
abandoned; burned down; whole lines dead, unmarried.

Here, metaphor “serves as the genetic key to the whole organism” in the poet’s attempt “to clone an emotional, intellectual and visceral event” (Michaels 1992: 96). The message is unspeakably moving, and what the words convey goes far beyond anything they

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<sup>6</sup> “What the light teaches” was first published in Michaels, Anna (1991).

say. This is how metaphors work. The feelings, sensations and emotions they elicit far exceed anything expressible by words and propositions, an observation that has led to a vast literature on metaphor, from a range of different perspectives (see, for example, Bambini et al. 2016 Black, 1955 Carston, 2002, 2008, 2010; Fauconnier and Turner, 2002 Genovesi, 2019; Gibbs, 1994; Grice, 1975a; Lakoff and Johnson, 1980, 2003; Martinich, 1984; Ortony, 1975; Sperber and Wilson 1986/1995, 2008; Wilson and Carston, 2019).<sup>7</sup>

Famously, Donald Davidson (1978) believed the analysis of metaphor to fall beyond the scope of theories of language interpretation, an approach endorsed by Lepore and Stone (2010). The relevance theory view has consistently been that this view is misguided. Equally, Sperber and Wilson (2008) reject the Gricean view of metaphor, under which metaphorical utterances implicate a related proposition, arrived at once the literal interpretation has been rejected (see also Bezuidenhout (2001), Gibbs (1994, 2002), Glucksberg (2008)). Relevance theoretic work in lexical pragmatics has shown that metaphor is just another example, albeit an extreme variety, of the kind of *loose-use* that typifies linguistic communication. There's nothing special about it, and the use of metaphor is emphatically not-different to everyday language use, as the Ancient Greeks would have had us believe.

Consider an utterance of (2), which could be intended in several different ways:

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<sup>7</sup> By way of clarification, I add that the use of the word 'visceral' here is not meant to imply there is anything necessarily 'embodied' about the interpretive process. I mention this because an anonymous reviewer has suggested that it would be relevant to discuss the work of Lakoff and Johnson here. Lakoff and Johnson claim that the kind of cross-domain mapping involved in the interpretation of metaphor typically involves 'embodied' sensory-motor processes. However, what 'visceral' refers to here is what a reader 'gets' from a metaphor, rather than how they arrive at whatever it is they get. Notwithstanding this, I do find myself more and more convinced by the kind of 'extended' view of cognition proposed by, for example, Clark (1999), or that inherent in the work of Kolaiti (2019, in press *ab*) and, indeed, some of Barsalou's work on perceptual symbol systems (1999, 2010—see Golding (2016) for a useful overview of how these relates to pragmatics). And while there are numerous potentially interesting points of cross-pollination between the relevance theoretic view taken here and the one proposed by Cognitive Linguists (see Tendahl and Gibbs 2008, 2011; Wilson 2011), the main difference between the two approaches—that, in the first, metaphor is a feature of language-use, and that, in the latter, it is a feature of *cognition*—seems to me to make any useful cross-fertilisation unlikely.

(2) That music is totally electric.

It could, for example, be intended literally, to communicate that Miles Davis' 1986 album *Tutu* involves entirely electric instrumentation. Alternatively, it could be an example of approximation or hyperbole, where the concept communicated—ELECTRIC\*—is an *ad hoc* concept, created and modified from the concept ELECTRIC according to expectations of relevance. In a case of approximation, it might be intended to convey that the piece is largely electric but involves some acoustic instrumentation (*Bitches Brew*, 1970). In a case of hyperbole, it might be intended to convey that the piece is in fact mostly acoustic, but with a few electric elements (*Miles in the Sky*, 1968). A metaphorical interpretation is, of course, equally possible. And, as anyone who has heard *Sketches of Spain* will attest, that music—while acoustic—is totally electric. It is eternal, ephemeral, ineffable.<sup>8</sup>

I begin by assuming, with Sperber and Wilson (1998), that *ad hoc* concepts play a fundamental role in human mental life. The fact that, as we have seen above, there is demonstrably a continuum of cases between literal meaning, approximation, hyperbole and metaphor is hugely suggestive that Sperber and Wilson's (2008) *deflationary* account of metaphor is on the right track. Despite this, the relevance theory view is that while it is only weakly so what is communicated by Michaels' rich metaphor(s) in (1), and the metaphorical interpretation of (2), is nonetheless propositional. As a solution to the problem of ineffability, this seems to me to be problematic. I'm not suggesting that none of the effects of poetry are propositional: poems make us think a lot. But the good poems, and real artworks, also tap

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<sup>8</sup> In a forthcoming paper, Nigel Fabb presents a fascinating account of experience of ineffable significance utilizing aspects of the relevance theoretic framework as well as Dan Sperber's early work on symbolism. He also uses elements of Huron's (2006) account of the chills (and sometimes tears) caused by music. In the main, however, Fabb is interested in cognitive effects which, since they rely on metarepresentational scaffolding must, by their very nature, be fully propositional. My hunch is that the non-propositional "something else" I am getting at may also be involved in poetic effects but the "something else" I am searching for is subtly different to the one he is interested in.

into something else. They evoke something visceral as well as (or perhaps instead of) cerebral.

Central to the relevance-theoretic account is the notion of *manifestness*. According to traditional Gricean theories of pragmatics, what is conveyed in an act performed with an informative intention is a single, identifiable proposition. However, this is often not possible. The relevance theoretic informative intention is therefore defined as one in which the speaker intends “[...] to make manifest or more manifest to the audience a set of assumptions **I**” (Sperber & Wilson 1986/1995: 58). Within this set, assumptions may be manifest to different degrees of salience. Vague communication—of which metaphor is an important example—typically involves a marginal increase in the manifestness of a very wide range of weakly manifest assumptions, resulting in an increased similarity between the assumptions shared by communicator and audience. In understanding a metaphor:

[T]he addressee has to identify the array of propositions that the communicator intended to make manifest or more manifest. [...] [T]he members of an array are typically manifest to different degrees: some will be in the forefront of attention, while others may not be mentally represented and entertained in the course of the comprehension process at all. Wilson, 2018: 201.

Another way in which the relevance theory picture departs from the traditional Gricean one is that while Grice limited his account to those cases of intentional communication that satisfied his strict definition of non-natural meaning ( $\text{meaning}_{\text{NN}}$ ), relevance theory sees no reason not to include cases of *showing*, which Grice excluded. Sperber and Wilson (2015) provide an overview of their bi-directional continuum, which includes (on the vertical axis) a continuum between showing and  $\text{meaning}_{\text{NN}}$ —drawn on the basis of the nature of the evidence presented for the basic layer of communicated content—and



(on the horizontal axis) a continuum between determinate and indeterminate cases of both—broadly speaking, the difference between precise and imprecise communicated import. These two departures from the traditional Gricean picture, I believe, suggests relevance theory is uniquely equipped to analyse the vaguer aspects of communication.

However, there are limitations, as Deirdre Wilson herself admits:

[R]elevance theory [...] defines communication rather narrowly in conceptual terms.

Communication involves providing evidence for a range of intended effects, and while this leaves room for images and emotions to play a role as causes or consequences of an appropriate interpretation, they cannot be part of that interpretation unless embedded into a conceptual description. (Presentation at St John's College, Oxford, *The Balzan Project*, 2011.)

As I said, I firmly believe relevance theory is uniquely equipped to account for some of the vaguer aspects of communication, but those last five words—*embedded into a conceptual description*—suggest to me that the current relevance theory position does not tell the whole story. In order to properly account for the ineffable, we need to look beyond the narrow conception described above.

In claiming this, it should be noted that I am claiming nothing new. In his account of poetic effects Adrian Pilkington writes:

Although this “wide array of minute cognitive effects” may characterise and distinguish poetic effects from other kinds of stylistic effects in terms of propositions, it is not clear that the affective dimension can be reduced to such cognitive effects. (2000: 190)

And goes on:

Although cognitive pragmatics is now in a position to provide a substantive theory of literariness, it is important to be aware of the limits on how far it can go. There is a theory of literariness based on pragmatic theory and there is a beyond. (2000: 192)

My “something else”, I contend, lies *beyond*, and that is where we need to look.

## 2.2 Mental imagery

Wilson and Carston (2019) return to ideas touched on in Sperber and Wilson (1986/1995), and developed in Carston (2018), according to which the interpretation of metaphors involves the activation of mental images, which in turn serve to increase the manifestness of the array of propositions through which relevance is sought:

[A]s Sperber and Wilson (2015) emphasise, there are many ways of making propositions manifest, including drawing someone’s attention to an object or scene in the world by pointing or using gestures (e.g., an ostensive sigh or sniff, a deliberate facial expression), or making a demonstrative utterance (e.g., ‘Listen to this’, ‘Look at that’). [...] My suggestion is that some verbal metaphors (and some other uses of language) can achieve something similar by activating mental images and sustaining them above the threshold of consciousness. These images increase the degree to which certain thoughts/propositions are manifest to readers/hearers, propositions which may be used in deriving (weakly communicated) implications, which contribute to the relevance of the utterance/text.

This is an interesting proposal. But there are problems. Firstly, there is no consensus on what these mental images are. Even Carston (2018) and Wilson & Carston (2019) admit mental images are highly “variable” and “idiosyncratic”. By way of explication, Carston (2018)

discusses in some depth Colin McGinn's view of mental imagery as *Mindsight* (the title of McGinn's book on the subject). But McGinn's concern is much more with how nebulous notions such as imagination, dreams and creativity might relate to mental imagery, rather than the nuts-and-bolts of what constitutes the images themselves. Indeed, the nuts-and-bolts view that McGinn's offers—that we have three eyes, two on the outside and one on the inside—is enigmatic to say the least: firstly, many of the arguments originally raised by Pylyshyn (1973) *against* the notion of a “mind's eye” hold to this day; secondly, McGinn's notion of what constitutes a “concept” makes the approach very hard to reconcile with the relevance theory view of cognition.

The debate on mental imagery itself—from Pylyshyn's propositional view to Damasio's (1994) view that mental representations are routinely imagistic; from Rey's (1981) hybrid view to Barsalou's (1999) view that the language of thought is a perceptual symbol system anyway (in sharp contrast with Fodor's representational theory of mind); and Arp's adaptive notion of *Scenario Visualization*—has shed a great deal more heat than it has light. To my mind, the clearest exposition of the issues is in Block (1983) and Dennett (1981), and both remain agnostic on whether mental images exist or not.

Secondly, while the notion of a mental image may be a convenient one with which to try to reflect consciously on what is going on when one understands a metaphor (when we can't use words, where *would* we look but to images?), it doesn't necessarily follow from that that is in fact what is going on. Having taught courses on the nature of concepts for many years, I can vouch with some degree of certainty that when asked what constitutes the concept DOG, most people will respond an image of a dog. But there are many very convincing reasons not to believe this is the case. All of which leads me to wonder why, when their very existence is so uncertain, the relevance theory account of metaphorical interpretation feels the need to appeal to mental images *at all*. Metaphor is surely about the

stirring of emotions, feelings and sensations. As a candidate for moving towards the ineffable, mental images leave me cold. Some other mode of interpretation is required.

A route towards a possible answer, I suggest, is to be found where, arguably, the discipline of pragmatics began: in the work of H. Paul Grice.

### 3 Creature construction

One aspect of the programme Grice embarked on with his 1957 paper *Meaning* was to attempt to characterize meaning<sub>NN</sub> in terms of meaning<sub>N</sub> (Neale 1992). Grice was clear that the two notions, which he was careful to distinguish at the beginning of Grice (1957), were inextricably linked. Indeed, in later work he suggested that the two notions might actually be understood as operating within some common fundamental principle: “on some interpretation of the notion of consequence, *y*’s being the case is a consequence of *x*” (Grice 1989: 292). Elsewhere, he put it as follows: “[i]n natural meaning, consequences are states of affairs; in non-natural meaning consequences are conceptions or complexes which involve conceptions” (Grice 1989: 350).

The thought experiment on *creature construction* (Grice 1975b) presents a more nuanced and comprehensive view of an account he offered more briefly elsewhere (see Grice 1982), in which he attempts to demonstrate how human cognitive capacities might have evolved to such a degree of complexity that meaning<sub>NN</sub> can be shown to emerge from meaning<sub>N</sub>. The account is, roughly speaking, a phylogenetic account of the development of the human metarepresentational ability, which led to Theory of Mind. In this experiment he proposed we consider ourselves as *genitors*, whose role it is to design a series of creatures—*pirots*—which gradually demonstrate increasing cognitive complexity. Our *pirots* must necessarily be oriented towards survival and the psychological processes we design for them

must affect that survival-orientation behaviourally. The final *pirot* in the series should possess complex psychological processes characteristic of higher-order intelligences, but these more complex psychological processes should always be accountable for in terms of simpler, more primitive psychological processes that preceded them.

Grice's interest in accounting for the stage-by-stage development of these processes was to ensure that he would be able to reflect upon the interaction between more primitive, simpler cognitive mechanisms and later, more sophisticated ones. His method stresses therefore a level of consistency with the notion of organisms evolving over millennia and millennia, gradually developing increasingly sophisticated psychological processes which must all ultimately orient around self-preservation and reproduction. Since Grice's publication, an increasing body of empirical work has grown (admittedly independently of Grice's work), which examines how evolutionarily newer circuits are built on top of older circuits and modulate pre-existing functions (Anderson 2010). Study of the ontogenetic and phylogenetic development of the brain has become essential to account for how more recent circuits establish more complex patterns of behaviours in the organism by augmenting the core operations carried out by older circuitry. His work is also highly prescient of work in evolutionary psychology (see Tooby and Cosmides, 2008).

It is possible to retrace the thought experiment using examples of actual organisms (Cornell and Wharton (forthcoming)). The most basic *pirot*—a sea-sponge—is able to detect extremes of temperature and dilution of particles in the water and respond to these conditions by contracting its body in order to protect tissue damage: it is therefore able, in a rudimentary way, to map sensory information to motor responses (Bergquist 1974). In the case of more sophisticated, self-propelling organisms, such as lizards, the sea-sponge's single rudimentary ultimate goal fragments into a number of separate sub-goals. A more sophisticated *pirot* must deal with the environment in a more complex manner, selectively orienting itself towards

target objects which satisfy basic biological goals. In the case of the lizard, this will include, as an example, identifying a predator as a danger.

The next sub-goal—to remain invisible to the predator in question or to escape—will then be loaded into its motor repertoire. This discovery might then be marked in the animal's cognitive system as “desirable” (so-called affective-marking), so that this successful behaviour can be integrated into the sensorium's capacity for prediction. Should the *pirot* find itself in a similar situation in the future, it will do well to remember what form of behaviour succeeded. It has been proposed (see Sander et al. 2003) that this affective marking takes place in the amygdala. Notice that, at this stage—arguably at least—none of these representations are “embedded into a conceptual description”: they are feelings and sensations.

Of course, most of the sensory information being taken in by a creature at any given moment has little to no bearing on the completion of whichever goal they are currently pursuing. So, in much more complex *pirots*—an early hominin such as an *Australopithecine*—discoveries that have been affectively marked can be used as relevance detectors in order that incoming stimuli can help restore predictability. At this point, our *pirot* will require a heuristic with which it can sort through the array of mostly non-useful information successfully, and there will be a strong selective pressure guiding the creature's nervous system to optimise for efficiency.

Clearly, an organism with a more developed ability to predict relevant information in the surrounding environment has a much greater chance at success, and one would therefore expect selective pressure towards this predictive capacity being increased. An expanded capacity to hold, store and compare information might then be turned inwards, back towards the individual, and predictions compared with themselves rather than with incoming sensory inputs. If thoughts increasingly become a perceptual feature of the environment, the

opportunities they confer on our *pirot* can be explored like any other percept, and for social organisms such as primates, the internal states of conspecifics become an ever more significant element of the surrounding environment for which a predictive map is developed.

Pressure to predict each other's internal states as accurately as possible may, then, have provided the impetus to form categories that internalise psychological processes as manipulable conceptualisations. This is what Grice called *Humean projection*, the human propensity to "project into the world items which properly (or primitively) considered, are really features of our states of mind" (1975b: 41). Psychological processes such as "knowing that" or "wanting that" emerge from a place in which they merely support the animal's perspective to one in which they can be actively involved as objectified tools of awareness. Whereas a simple *pirot* might experience a state such as (3):

(3) 'wanting x'

A complex *pirot* is capable of experiencing a state such as (4):

(4) 'knowing that [I want x]'.

According to the Machiavellian Intelligence Hypothesis (Byrne and Whiten, 1988) the task of dealing with this social complexity presented a particular challenge to early hominids, and resulted in a 'Cognitive Arms Race', which caused a spiralling of human cognitive and metacognitive abilities. The ability to interpret outward behaviours in terms of the psychological processes motivating those behaviours would have given an individual strong, predictive powers, and it would have been adaptive to become more and more adept at working out the thoughts and feelings of others (Humphrey, 1984). There is now a hugely

rich literature on the ontogenetic and phylogenetic evolution of theory of mind, broadly speaking the ability pivots of this complexity are exhibiting (Baron-Cohen, 1995; Dennett, 1978; Cheney and Seyfarth, 1990; Leslie, 1994; Tomasello et al. 2005).

Grice's thought experiment demonstrates not only how psychologically complex mental states might emerge from psychologically simple ones, but it also challenges us to consider carefully the relationship between the simpler solutions to evolutionary challenges and the complex ones. Evolution does not dispose of simpler solutions to extant evolutionary problems, particularly if they meet the demands of optimality. As an example, before the evolution of DNA the earliest life-forms were self-replicating, auto-catalytic ribonucleic acid molecules—RNA—the earliest molecule to carry genetic information (about four-billion-years ago—and one of the largest RNA viruses is SARS-CoV-2, the virus that causes Covid-19). However, although the much more widely known DNA is responsible for the replication and storage of genetic information in modern-day organisms, RNA still acts as an information transfer system within the human brain. Complex systems augment, rather than replace, simple ones. We might therefore reasonably expect more recently evolved higher-level cognitive processes to be supplemented by more ancient, lower-level ones.

#### **4 Affective effects**

When faced with a desire to communicate emotions, humans have two very different options available: an indirect way, in which we conceptualise, and a direct way, in which no such conceptualisation occurs. Compare hearing utterances of (5) and (6) with hearing (and seeing) utterances of (7) and (8):



- (5) I am absolutely delighted!
- (6) I am unhappy.
- (7) Wow! [Jumping up and down with delighted facial expression]
- (8) [Looking at you sadly, teary-eyed and shaking]

A preliminary observation would be that most of the time communicative acts involve both the indirect and the direct options. So, we both hear *and* see most utterances (and feel them too). What distinguishes the two options is that the first involves propositional or conceptual content (as in (5) and (6)) and the second is non-propositional (as in (7) and (8)). I have argued that the latter are triggered by procedural information (in the relevance-theoretic sense—Wharton 2003ab, 2009; Blakemore 1987, 2011) and typically involves in the direct expression of emotion in interjections, facial expressions and natural tone of voice. Louis de Saussure (p/c) has pointed out to me that when we ask someone who has clearly been crying if they are OK, we typically do not believe them if they respond with a cheery “I’m OK, thanks.” In this regard, direct expression seems to take precedence.

Wharton (2003a) suggests a range of arguments why interjections cannot encode conceptual information and proposes they encode procedures, which activate a range of speech-act or propositional-attitude descriptions associated with expressions of emotion. This idea is taken further in Wharton (2009) in which it is proposed that interjections, smiles and other natural, spontaneous facial expressions rely largely on what are termed *natural codes*, a notion which has its roots in ethology (Bradbury and Vehrencamp, 1998; Hauser, 1996). While such expressions are “natural” in the Gricean sense, they differ from traditional cases of Gricean natural meaning insofar as the reason for their continued propagation through a species is that they are communicative. Human shivers, for example, also convey information but have a function which is independent of that. On this approach, while they may facilitate

the retrieval of propositional-attitude descriptions the function of interjections, or facial expressions (as in (7) and (8)) is principally to express feelings and sensations via direct activation.<sup>9</sup> This view sits nicely with the view of Mark Lieberman, who writes:

At all times, we are communicating information about our emotional state, attitudes, and evaluations of whatever we are currently confronting [...] Several of the nonverbal cues that reflect our internal state can be controlled consciously to some degree, but this will only occur if one directs one's conscious attention to the process of non-verbal encoding [...] We produce most of our nonverbal cues intuitively, without phenomenological awareness. (Lieberman 2000: 111)

The kind of imagery Wilson and Carston (2019) have in mind is “consciously experienced” or “phenomenologically salient”, but according to Lieberman—in non-verbal communication at least—that is not the whole story. There is a vast literature on emotional contagion (see Hatfield *et al.* 1994) which claims that instances of emotional communication convey not only conceptual information about emotional states, but ultimately and above all, something of *the emotional states themselves*. No embedding into a conceptual description is necessary.

It may well be true that feelings, sensations and affect can impact on the degree of manifestness of propositions, humans—after all—regularly conceptualise emotion. However, feelings need not be conscious at all. Nor are feelings represented propositionally. Having a “feeling” that today is going to be a good day, or that you have performed well in an exam, differs from “believing”, or even in one sense “thinking” the same thing. As far as I can see, the closest the standard relevance theory view gets to the notion of “feeling” I propose is the

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<sup>9</sup> For an alternative analysis of interjections, see Padilla Cruz (2009ab), who has argued that in cases where interjections are highly conventionalised, they might indeed activate conceptual representations. Those conceptual representations could be rather vague or general, so they would still require fine-tuning.

notion of an “impression”. But in relevance theory an impression is characterised as an array of weakly manifest propositions (consciously represented or not) and propositions, it is my contention, are not the right currency to exchange for feelings.

While an in-depth discussion would take us too far away from the central aims of this paper, there are many other aspects of cognitive activity that are hard to explain in terms of propositional content. As well as “the dance of non-verbal communication”, Lieberman asks us to consider “intuition”, which “seems to lack the logical structure of information processing” (2000: 109), and *Eureka!* moments (Schooler and Melcher 1994), during which sudden insights are gained in the absence of any conscious thought. Building on work by Stanley (2011), Fridland (2015) considers the case of embodied skills, such as knowing how to play a musical instrument. Is the system of knowledge needed to *know how* to play the trumpet propositional? Do feelings rely on propositions? Surely not.

One possible solution to the problem of non-propositional effects that differs from Wilson and Carston (2019) is to appeal, as does Pignocchi (2012), to analogue as opposed to digital mental representations. In the past, I have found this view highly appealing (see Wharton 2009), but I now think it is problematic. After all, computers produce images that are apparently perfect facsimiles of analogue photographs. However, they build their analogicity on wholly digital foundations. (I think it is an intuition such as this that lies behind upon Pylyshyn’s propositional view of mental images.) By contrast, what we tend to call digital circuits almost always incorporate analogue transistors.

In my view, a more promising alternative is offered by Patricia Kolaiti (2019, in press *ab*), who sidesteps the digital/analogue distinction and argues that cognition is a mixture of causally interconnected conceptual and perceptual representations and that the aesthetic effects of literature and art cannot be properly explicated using the traditional relevance theoretic notion of positive cognitive effect at all. She proposes the notion be

supplemented with a new notion of *positive perceptual effect*: partly (or perhaps wholly) embodied effects, which account for the selective directedness of our mental lives towards art and other objects that possess no obvious utilitarian function. (Kolaiti also identifies so-called “body awareness”–or “kinaesthesia”–as a candidate for a non-propositional thought process.) Such effects do not improve one’s representation of the world in the same way as positive cognitive effects, but instead sub-attentively enhance the mind’s perceptual and neural organisation. She cites Ramachandran and Hirstein (1999), who claim that engaging with certain types of images in certain ways is a reinforcing and rewarding experience for the individual. It is good for us.

To complement Kolaiti’s notion of perceptual effects, I have proposed a parallel notion of *positive affective effect* (Wharton & Strey 2019 de Saussure and Wharton 2020) which, arguably, also extend relevance theory in an embodied direction. I take “affect” to be a superordinate term which incorporates emotion, sensations, feelings and mood. Following Rey (1980), I distinguish emotions from “sensations” or “feelings” by the fact that they involve an interaction between the *cognitive* element necessary for an emotion-proper and the *physiological* and *qualitative* elements involved in sensations and feelings.<sup>10</sup> Cognition is necessary for an emotion to be elicited, but sensations or feelings exist at a pre-conceptual level: the former are largely physiological changes, the latter are conscious or unconscious–but non-propositional–representations of an internal state.<sup>11</sup>

Imagine an individual in whom a strong fear response has been elicited. The physiological sensations they are experiencing is a result of surges in the levels of chemicals such as cortisol and adrenaline. This new chemical balance “puts” the individual in a state of hyper-alertness, in which the salience of perceptual inputs they may not normally have

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<sup>10</sup> Rey (1980) does not mention the term “mood”, but my sense is that they are chronic rather than acute “feelings”.

<sup>11</sup> Gutt (2013) proposes an alternative view of feelings more along the lines of that offered by Damasio (1994).

appeared on their radar is heightened. The subconscious feelings the physiological sensations give rise to are *positive affective effects* in the original sense of the meaning of the word “affect”: they *cause* a change. In the case of fear, alertness is the first such effect. Others will involve the requisitioning of the resources required for the elicitation of a full emotional episode: a feeling that there is now a new set of goals ahead and that informational priorities have radically changed (perhaps, for example, assumptions have been reordered). Once cognition is involved, the individual will be directed to a range of differently prioritised inferential processes and, eventually, different positive cognitive effects in the original sense of relevance theory. These cognitive effects, of course, may give rise to yet more affective effects.

Since they are non-propositional, affective effects do not play a role in the inferential search for relevance, but they do have a property of intrinsic directness, and as such will considerably reduce the overall effort involved in reaching optimal relevance. There is neurological evidence to support this claim. The processing of information through the subcortical pathways of the amygdala facilitates faster and more efficient transmission of information than is usually possible in the cortical hemispheres responsible for conceptual thought. This increased speed enables us to respond to a dangerous stimulus well before we have become consciously aware what that stimulus might be. Modern humans still have a use for strategies adopted by quite simple *pirots*, but sometimes the two modes do not co-exist happily. In cases of *amygdala hijack* (Goleman 1995) the amygdala wrests control of the fear response, activating the fight-or-flight response and disabling the frontal lobes, effectively preventing rational decision making. Panic attacks often ensue.

The terminology differs, but elements of Rey’s view make it consistent with the fundamental assumptions of the approach to emotion elicitation in Appraisal Theory

(Ellsworth 2013; Moors, Ellsworth, Scherer & Frijda, 2013).<sup>12</sup> According to this approach, emotions consist of several, different components—autonomic reactions, expression, action tendencies, feeling—and, crucially, involve an evaluation or appraisal that has caused the reaction.<sup>13</sup> It also, I claim, fits with the view of emotion presented in Tooby and Cosmides (2008), who assume that the human mind possesses a species-specific neural architecture which has evolved in response to adaptive problems faced by our ancestors. They define emotion as a superordinate cognitive procedure, the function of which is to regulate or mobilise cognitive sub-procedures responsible for perception and attention, goal choice, information-gathering, physiological changes and specialised types of inference. In terms of the distinctions being presented here, these procedures include affective and cognitive effects.

The procedures improve human responses in two main ways. The triggers might be either *environmental* or *communicative*. A sudden change in the environment such as—in the case of a sea-sponge—a slight increase in water temperature, will prompt a behavioural response. When there is only this one goal to pursue, as well as only one means of pursuing it, the *pirot* (or sea-sponge) will pursue it in a structurally holistic manner. In the case of more complex *pirots*, a change in the environment such as a loud noise might result in a behavioural response such as a startle. But in this latter category, the ultimate goal of survival is composed of many other sub-goals, and executive decisions need to be made to determine which sub-goal should be prioritised from moment to moment. In the case of the lizard, a particular sound may indicate the presence of a predator, or it may indicate the presence of a food source. The sensory-motor feedback mechanism of the kind that was used to perpetuate the integrity of the sponge's bodily structure now becomes the precursor to a more centralised

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<sup>12</sup> The main reason I am reluctant to adopt Damasio's framework (mentioned in *fn. 11*) is that I believe it is much easier to build bridges between relevance theory pragmatics and Appraisal Theory than between it and Damasio's framework. Such work has already begun: see Wharton et al. (2021)

<sup>13</sup> Delplanque and Sander (2021) point out it is precisely because an emotional episode consists of so many separate components that measuring emotions is so difficult (not to say "risky").

decision-making process, capable of choosing and sequencing distinct behaviours, each spontaneous, automated and relevant to the environmental trigger.

Even highly complex organisms, such as human neonates, exhibit these automatic responses. When a cotton-bud dipped in sulphur is held under their nose, they will typically turn up their nose and make a disgusted facial expression. The obvious explanation is that this reaction occurs because, to the baby, the cotton-bud smells disgusting. But this reaction does not depend on the activation of a concept DISGUSTING. Indeed, it does not presuppose that the baby even possesses a concept DISGUSTING (Tye 2004: 225). The neonate's reaction is a direct emotional one, and in developmental terms is primitive, in the sense that is non-propositional (and, indeed, *pre-conceptual*—see de Saussure and Wharton 2020). Such automatic, pre-conceptual responses remain with us long into adulthood and guide the direct expression of emotion. Responses to stimuli need not be embedded into a conceptual description to be effective responses to those stimuli. Of course, such responses might be co-opted into ostensive communication by being deliberately shown. In this case, the search for relevance will take over and the first system will be supplemented by the second.

In *pirots* which live in social groups, the trigger might be a communicative one.

Consider a simple coded alarm call, such as (9):

(9) *Bear!*

Hearing this alarm call, physiological changes over which an early hominin (or, for example, vervet monkey) has no influence will have the speaker, *and also the hearer*, in a state hyper-alertness. For co-evolving with Tooby and Cosmides' emotional procedures would have been emotion-*reading* programs and procedures, sub-attentive, procedures help us read emotional states. Emotional states are perfectly capable of being 'caught' in a direct and immediate way

when an individual resorts to the appropriate means. This claim is in no way new. There is a vast literature on emotional contagion (see Hatfield *et al.* 1994) which claims that instances of emotional communication convey not only conceptual information about emotional states, but ultimately and above all, something of *the emotional states themselves*. Affective effects are just as contagious as cognitive ones (see Sperber 1996), but the process of contagion bypasses any propositional representation. Consider (5) and (7), repeated below as (10) and (11):

(10) I am absolutely delighted!

(11) Wow! [Jumping up and down with delighted facial expression]

The very reasons an utterance of (11) communicates directly is that, initially at least, it is affective effects that are communicated.

Sperber and Wilson suggest that one of the main payoffs of ostensive communication is that it enhances the mutual cognitive environments of those engaging in it. It does not seem implausible to suggest that the same may be true of cases of direct emotional communication through affective effects. Just as an awareness of the beliefs of others can have important consequences for successful interaction with them, so might an immediate awareness of their emotional states be beneficial also. In a creature possessed of the requisite metapsychological abilities for ostensive behaviour, a direct and an indirect way may still be beneficial. (And, as I pointed out earlier, the primitive system may enjoy some precedence.)

If I am on the right track, the obvious question is to ask whether human artefacts such as literature, art and music might also lead to *positive affective effects*? If so, perhaps the non-propositional effects of relevance theory are not illusory after all, but genuinely non-propositional objects. This seems to me a possibility worth exploring. There is of course a



role to be played in the appreciation of music, poetry and art by propositional effects, but that view side-lines the direct impact such artworks have on us. If the primitive mechanisms I have discussed above persist, and they link in so firmly with the elicitation and expression of emotions, feelings and sensations, then they are ideal mechanisms to appeal to in accounts which intuitively involve more than propositions. It is these mechanisms we need to help explain the “emotional, intellectual and visceral events” referred to by Michaels, Tolstoy’s spiritual “expression of feeling”, Collingwood’s “imaginative creation” or Proust’s “deeper self”. Creative metaphors and artworks in general directly evoke feelings of joy and pain, or any of the multitudinous physical sensations that might accompany an emotional episode. These sensations and feelings may well result in an array of propositions, but even if they do, the array can only be part of a more complex narrative, which has an altogether more elemental beginning.

## **7 Conclusion**

Man, if you gotta ask, you’ll never know. (Louis Armstrong’s reported response to the question ‘What is jazz?’)

There are some things that can never be put into words. But, before I conclude, there is a worry in all this. It is that so-called primitive processes introduced above cause a problem for theories that claim to be psychologically real. Ned Block writes:

The mode of operation of a primitive process is rather in the domain of a ‘lower-level’ science: neurophysiology, in the case of humans. The potentially serious limitation comes in with the possibility that primitive processes may bear most of the burden in explaining

human thought. If so, cognitive science ‘bottoms out’ in primitive processes much sooner than expected. Block (1983: 506),

This may well be one of the reasons that relevance theory—a resolutely cognitive theory of utterance interpretation—endorses the propositional view so strongly. I admit that it’s still not clear to me, for example, what “switching on” a non-propositional affective effect mental state might be, as distinct from causing someone to infer a proposition. I don't have an answer, but would add, firstly, that relevance theorists are perfectly happy to accept that discourse connectives such as “so” and “after all” can encode procedural information that activates inferential packages without recourse to any intervening conceptual apparatus. And the directness of natural codes (and the instinctual reaction of the human neonate to sulphur) is strong evidence that conceptualisation can be bypassed, as well as strong evidence that there’s much more to procedural meaning discourse connectives. Secondly, are the challenges I have raised any more of a challenge for a psychological theory than are the problems surrounding putative mental images? The latter are opaquely defined and at least as little understood. In addition, the appeal to imagery *over-intellectualises* accounts of the interpretation of metaphor and artworks generally.<sup>14</sup> It inflates the relevance theory account, the strength of which—ironically enough—lies in the fact that it is *deflationary*. It has the effect of making the interpretation of figurative language something different, somehow special. It’s not. Our accounts need to be rooted in sensations, feelings and emotion. That’s the something else.

As I mentioned in the introduction at least there are at least two possible consequences such an account might have for relevance theory. According to Sperber and Wilson’s approach, the kind of effects that result from the interpretation of literature and art

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<sup>14</sup> By the same token, I find Huron’s (2006) account of musical expectation, and some of the literature it has spawned, to be oddly out of kilter with everything I know and understand about my experience of music.

are conceptual. Humans are *cognitive organisms*, who selectively interact with inputs in the ecology of their environment driven by expectations of cognitive effects and cognitive relevance guided principally by the cognitive system as a device for the acquisition and management of knowledge.

A first possible consequence, then, is that in acknowledging the existence of effects that are not ‘cognitive’ in the sense currently understood by relevance theorists we might embrace the idea that humans are not merely *cognitive organisms* at all. Rather, we are organisms in which the cognitive, perceptual and affective dimensions of our internal lives synthesise, and are somehow inextricably intertwined. To account for this the machinery of relevance theory needs to be extended.

A second possible consequence, of course, would be to rethink quite radically what we mean by cognitive effects, and consequently what we mean by cognition. Can ‘cognitive’ effects be sub-propositional, or even non-propositional? The notion of propositionality is central to the Fodorian view of mind, to which relevance theory generally subscribes. But there remain many more problems with propositionality than those that are the main topic of this paper. Aspects of the relevance theoretic response to the challenge of non-propositional effects deserve careful reconsideration. Work remains to be done.

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