Italicization and understanding texts through metaphoric projections of movement

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Abstract

Bellantoni and Woolman (2000) note that "Italic and oblique typefaces possess a kinetic quality because of their slant to the right." But what is the nature of this kinetic quality and why is it imparted in this way? This paper explores kinetics, not as a property of italics, but as a manifestation of cognitive work involving metaphoric projection, for which the typeface is but a cue. It will use concepts from cognitive semantics (Lakoff and Johnson, 1999; Fauconnier and Turner, 2002) to posit the idea that the dynamic quality of italics arises from preconceptual structures (such as image schemas) related to embodied experiences of writing and running. These structures forming the basis for higher level metaphors to be constructed in cognition. Consequently, a layout incorporating italics is metaphorical to the extent that the concept of running is used (consciously or unconsciously) to understand an arrangement of type characters. Furthermore it is argued that the meaning we construct from italic type is not a simple correspondence between slanted letters and the body in motion, but is situated; resulting from a blend of concepts triggered by such things as the meanings of the words italicized and the site/s where they appear.

Introduction

Italic and oblique typefaces possess a kinetic quality because of their slant to the right. Bellantoni and Woolman, 2000, p.35

The kinetic quality of oblique forms in general and italicized and oblique letterforms in particular has been commented on by practitioners and theorists (Arnheim, 1954 /1975; Bellantoni and Woolman, 2000) and this quality is often discussed as something belonging to the form itself; something intrinsic, for example, to letters on the page. This paper uses theories and concepts from cognitive linguistics (Coulson, 2001; Fauconnier and Turner, 2002; Johnson, 1987; Lakoff, 2006; Lakoff and Johnson, 1999; Talmy, 2000), to explore an alternative account of italicization and kinetics. An account in which the dynamic quality of these letterforms is constructed in cognition, and where an association with motion arises not because

of some universally evident property of italics, but because of our shared bodily faculties and experiences which we utilize both consciously and unconsciously to make and to read typographic designs. It will be argued that the use of the body in these designs is metaphorical to the extent that a *source domain* (the body) is utilized to understand a different *target domain* (the letter). Furthermore that this embodied understanding of letterforms contributes to the dynamics we associate with italics.This interest in metaphorical associations between letter and body stems from a concern to make both the designer's and the user's conceptualizations explicit in order to improve communication. In many cases the mental processes investigated are preconceptual, but their functioning is fundamental rather than trivial, and the nature of the links between body and letter are not fixed and predetermined, but are situated in the cognitive work involved in acts of communication.

This paper describes some aspects of an ongoing practice-based master's project concerning the metaphorical associations between italicization and the body. Such associations, though often unconscious, may be reflected in the way that we communicate (Lakoff and Johnson, 1980/2003); for example we might talk of '*running* text' or type '*leaning* to the right.' These are both cases of understanding letters in terms of what we can do with our bodies. There are many such ways of talking about typography that make reference to the body. It is argued here that these ways of talking about type are what Lakoff and Johnson refer to as *metaphorical expressions:* that is, statements that are structured by an underlying *conceptual metaphor* (in this case LETTER IS BODY). Logan has identified similar conceptual metaphors in 'metaphor based discourses' (2006, p.335) that relate to graphic design practice. The master's project described in part here is an investigation into how such conceptual metaphors are manifested in visual, rather than verbal communication. The intention being to identify ways in which typographic designs provide prompts for the construction of metaphors related to the domains of letter and body. Reflections on practice are used to evaluate if basic typographical choices (such as whether to italicize a particular word or not) are motivated by metaphorical associations with the body. These reflections on practice are supported by analysis of existing designs incorporating italics, for example, graphic designs applied to road trucks. The next section provides a brief overview of the theoretical framework that informs the study, followed by an overview of the implications of this framework in relation to how we make meaning from italic and oblique letterforms. This is followed by an analysis of various examples of italiciza-

tion to try and determine some of the ways that metaphor supports the user in the construction of meaning through *communicative acts* involving typographic forms.

The theoretical framework

The theoretical framework is largely based on theories within cognitive linguistics; primarily conceptual metaphor theory and image schema theory, but also with reference to conceptual blending theory, and Talmy's work on force dynamics in language. In terms of language, cognitive linguistics has been more concerned with verbal rather than visual language, although visual material has been scrutinized in several texts (Fauconnier and Turner, 2002; Johnson, 1987; Lakoff, 2006; Lundmark, 2005). Cognitive linguistics is referred to as an approach rather than a theory that incorporates a "...diverse range of complementary, overlapping (and sometimes competing) theories" (Evans and Green, 2006, p.3). This breadth of activity however, centers around a number of core perspectives, one of which is *embodied realism*.

Embodied realism

Embodied realism proposes that our understanding of the world is based on concepts developed from our embodied experiences of it (Lakoff and Johnson, 1980/2003; Lakoff and Johnson, 1999). It is therefore because of the way that our bodies are, that our conceptual system is the way it is. Ontologically, there is a reality 'out there,' but this reality can only be understood through embodied concepts and metaphorical projections based on these concepts. Meaning is not to be found in objects in the world, such as typographic characters, these things are cues for cognitive work that constructs meaning from them. Consequently, as Evans and Green (2006) note "Semantic structure is conceptual structure..." and "language refers to concepts in the mind of the speaker rather than to objects in the external world" (p.158).

Shared meanings between designers and users in relation to a graphic design therefore, arise not because of some independently existing meaning belonging to a real world referent, but primarily because of similar embodied and cultural experiences that enable designer and user to construct meanings from visual cues in similar ways.

Image schema theory

Repeated interactions with the world provide embodied experiences. The regularities in these experiences enable us to order them, and then to reason about them. An

image schema therefore, as Johnson (1987, p.29) notes, is: "...a recurrent pattern, shape, and regularity in, or of, these ongoing ordering activities. These patterns emerge as meaningful structures for us chiefly at the level of our bodily movements through space, our manipulation of objects, and our perceptual interactions."

Image schemas, are not limited to the ordering of visual experience but relate to all the senses. They are schemas because they are abstract and used to structure a wide variety of different instantiations of bodily experiences. Image schemas however, are not fixed and immutable frameworks into which experiences are located, but are able to be adapted to fit particular experiences and instances. As Johnson observes (1987, p.44) ordering and pattern creating structures, image schemas are collections of different aspects of experience formed into *experiential gestalts*. Image schemas therefore have parts, although they function as unified wholes. They are pre-conceptual but are the basis for inferences to be made in our conceptual system. Lakoff (1987) and Johnson (1987) both provide diagrammatic representations of image schemas. The diagram for 'path' where points A and B are linked by a path (*figure 1*). This basic image schema can have a left to right directionality applied to it so that point A becomes the source, and point B the goal (Johnson, 1987, p.114).

Image schemas and the brain

The *cog-hypothesis* proposes that areas in the brain which are used to control sensory-motor activities, can also be utilized for reasoning (Lakoff, 2006). So, for example, a motor activity such as running is controlled by a neural ensemble that involves at least two different areas of the brain. One of these (the *motor cortex*) controls simple individual actions (bending of the knee, etc.), the other (the *premotor cortex*) coordinates these simple actions into complex actions (in this case running). In this example the motor cortex is a primary neural structure involved with processing a lot of detail and the premotor cortex is a secondary structure involved with more general coordination and structuring. It is this secondary structure that can function as a cog when used, not to control motor activity, but to "compute complex patterns that can permit inferences and evolve in time" (Lakoff, p.164).

Figure 1 Path image schema (after Johnson, 1987).

Lakoff used the cog-hypothesis to describe how we are aware that a figure in a still image is in motion even when the image is abstracted. This description involves the firing of mirror neurons (which are activated when we perform a coordinated action or see such an action performed). We are able to understand that movement is involved because we can make use of the secondary neural structures that we use to coordinate our own actions, consequently we are able to 'feel' to an extent what such a movement would be like. It is this secondary structure that is the cog, as Lakoff (2006, p.164-165) notes:

> *Cogs include ... image schemas, and force-dynamic schemas. They inhibit connections to the primary neural structures that would fill in specific details ... These cogs are at once embodied, since they are part of the sensory-motor system, and 'abstract,' since they do not include details. Cogs give structure to culture, and conceptual metaphors give substantive meaning to the cogs. Cogs allow us to have an embodied understanding of the form of abstract art, and metaphors apply to cog structures to provide interpretations for abstract art.*

Conceptual metaphors

Conceptual metaphors use sensory-motor experience to structure subjective experiences (Lakoff and Johnson, 1999, p.45). So, for example, sensory-motor experiences of physical weight, can be used to describe how convincing an argument is, so that we talk about 'the weight of an argument.' A related metaphor concerns balance, so that arguments, and even entire minds, can be 'balanced' or 'unbalanced.' These conceptual metaphors are expressed in different ways in everyday language, and are pervasive.

When we regard a two-dimensional image, such as a type character, we also talk about weight and balance. According to Johnson (1987) this kind of talk is also metaphorical in that we are not describing literal, physical weights and forces, but visual ones. Johnson (1987, p,82) discussing an Udo, bronze figure, notes:

> *The balance here is visual; it is not a balance of actual physical weights or masses in the bronze figure. It is a balance of line and of visual forces that can create perceptual motion in an apparently static figure. We can speak of metaphorical projections at this level of understanding, insofar as we are experiencing a meaningful distribution of visual forces. ... It can only be by a metaphorical extension from our experience of physical weight that the sword and right arm could somehow have 'equal weight' with the left arm in the composition. Again, the metaphor consists in the projection of structure from one domain (that of gravitational and other physical forces) onto another domain of a different kind (spatial organization in visual perception).*

Since image schemas are based on repeated sensory-motor experience they can be used as a basis for metaphoric interpretation, so for example, the path schema discussed above provides structure for the conceptualization of more abstract ideas as well as for ordering sensory-motor data concerning the physical movement of some object in space. Image schemas therefore frequently provide an input for metaphors (Lakoff, 1987, p.435), the SOURCE-PATH-GOAL schema for example, providing a structure for many metaphors based on journeys, such as life is a journey.

Metaphorical interpretation of image schematic structure

Evans and Green (2006) provide a partial list of image schemas collected from the literature. Many of these relate to the kinds of movement that can be expressed through italicization. Space schemas, for example, include: FRONT-BACK and LEFT-RIGHT; containment schemas include: IN-OUT; locomotion schemas: MOMENTUM, and SOURCE-PATH-GOAL; balance schemas: AXIS BALANCE, POINT BALANCE, and EQUILIBRIUM; and force schemas: COMPULSION, BLOCKAGE, COUNTERFORCE, DIVERSION, ENABLEMENT, ATTRACTION and RESISTANCE. This is by no means a complete list, however it does provide some indication of how potentially rich conceptualizations based on these schemas can be, especially since these schemas can be used in clusters and modified to fit particular circumstances.

To illustrate the ways in which image schemas might provide structure for metaphorical interpretation, consider an organizational logotype set in italics. Because it is set in italic the logotype provides cues for the construction of metaphors which link the organization concerned with some sense of movement. However movement has many senses, several of which could potentially be applied to the use of italics. So, for a research organization, or a company involved in developing new hi-tech products, an italicized logotype might suggest to a viewer that the organization concerned is moving towards the future. This conceptualization involves some of the schemas above (such as, SOURCE-PATH-GOAL, LEFT-RIGHT and FRONT-BACK) and these help to determine which sense of movement is in question. But these image schemas also provide structure that enables the metaphorical understanding of future time in terms of motion forwards through space, and this use of motion as a source domain underlies much of our understanding about time (Lakoff and Johnson, 1999, p.139). Alternatively, the same italicized typographic treatment for a logotype for an investment company might result in a reading that the company concerned is responsive to turbulent situations and energetically pursues opportunities. The motion and energy described here, is once again being used metaphorically, and Lakoff and Johnson describe a number of metaphorical statements based on the 'moving activity metaphor,' (1999, p.203). The inferences based on image schemas however do not have to be metaphorical; the use of italicization in a logo for a demolition organization might prompt for force schemas that metonymically represent the forces involved in the destruction of a building for example.

The SOURCE-PATH-GOAL image schema, is used in all these examples and informs the conceptualization of a certain type of movement. Italicized type could conceivably move in different ways (*figure 2*), however the elements comprising the SOURCE-PATH-GOAL schema, are consistent with the linear motion associated with reading, so that, with Latin characters, the start of a passage of text is the source,the path is the baseline on which the letters stand, and the goal is the end of the text.

Figure 2 Alternative potential movements of italics.

These readings of the logotypes above are not assumed to be fixed correspondences between a type of organization, on the one hand, and italicization, on the other, but rather, need to be creatively constructed by the viewer. The meaning making here utilizes the viewer's existing knowledge, including knowledge about organizations, and this meaning is prompted for by the range of cues provided in the act of communication.

The communicative act

The 'communicative act' is a term used by van Leeuwen (2005) to describe an alternative approach to the analysis of communication including 'speech acts,' 'image acts' and 'sound acts.' Rather than addressing a communication event as a series of distinct *monomodal* exchanges; focusing say on verbal language, then image, etc., the event is approached as a "single, multilayered, multimodal communicative act, whose illocutionary force comes about through the fusion of all the component semiotic modes" (p.121). These acts are necessarily complex, and therefore may well prompt for both metonymical and metaphorical links between different conceptual domains. The italicized word *'car'* therefore might be made to resemble a car pictorially, yet might still call for metaphorical links to be activated in cognition.

The meanings we make from italic types

Although the first italic types were used to print entire texts, after 1530 italics were produced by designers such as Garamond, Granjon and Guyot for the purpose of complementing roman type rather than as independent typefaces (Lawson, 2005). This development reflects an understanding of the use that italics can be put to, that is, to emphasize certain kinds of information by differentiating it from the bulk of the text. By designing a set of italics to have the same typographic color and similar visual characteristics as their roman companions, type designers conventionalized their use as a 'secondary type' (Tracy, 1986, p.61) and an instrument of emphasis. In order to emphasize, italics must stand apart visually from the rest of the text. Two different ways in which italics differ visually from roman fonts are explored here: a) through the cursive, handwritten cues provided by italics and b) through their oblique construction.

Italics and movement; associations with handwriting

For many typographers it is the cursive nature of italics that is their primary characteristic (Baudin, 1984/1989, p.40; Jury, 2006, p.144). These cursive characteristics

are reflected in the construction of the letterforms. Writing usually demands a degree of speed effecting the way we form letters. It is time consuming to have to remove the pen from the page, consequently there is a pressure to form characters from as few strokes as possible and to join-up letters when convenient. Chancery scripts were designed for speed and this sense of speed transferred to the early italics developed from them. From an embodied realist perspective these letterforms provide cues from which we can construct links between these italicized characters on the one hand and our experiences of writing with a pen on the other. This embodied experience of writing includes the cause and effect relationships between the act of writing and the nature of the resulting strokes and letters; this understanding about writing letters is stored in our memory. The cog hypothesis also suggests ways in which we might mentally trace the movement of a pen as we study italics. A comparison of italics and roman letters by Baudin (1984/1989) demonstrates how much quicker and easier it is to conceptualize the construction of italics in comparison with their roman counterparts (*figure 3*).

The account of the kinetics of italicization advanced here therefore, is that it is this knowledge about the ways letters are written that contributes to our association of movement with italics rather than any independently existing quality inherent within the letters themselves. The idea that there is nothing contained within the form of an italic letter that means 'movement,' is hardly a novel one (see for example White, 2005, pp. 237-239). However, an advantage of the cognitive semantic perspective is that it offers a way to explain how we might unconsciously conceptualize movement using embodied experience, without the requirement that any quality of movement should be factual or inherent to the italics themselves.

The visual dynamics of oblique letterforms

Grandjean's romain du roi, is widely cited in the literature (Kinross, 1992; Massin, 1970; Tracy, 1986) as being the first attempt to design a roman and italic along rational lines using a grid. According to Kinross (p.18) this grid was impractical for the task of cutting punches although the system introduced principles that were to be explored later on. Among these was the idea of deforming roman characters by skewing the rectangular grid on which the characters are based to form a parallelogram. The resulting designs are known as 'sloped romans' or 'oblique' types. These types are inclined like traditional italics, but do not share

Figure 3 Comparison of the letter strokes that comprise the letter m in Bodoni Book and Garmond Italic.

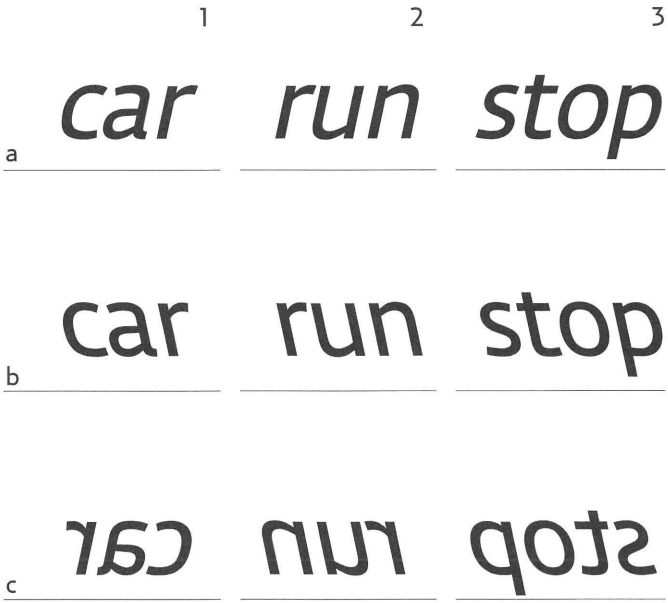


Figure 4 The words in each column are given the same typographical treatment: forward inclination in row 1, reversed inclination in row 2, and laterally reversed forward inclination in row 3. All appear well-formed except b2.

the simplified, cursive structure of italic letterforms. Rather than the single storey italic '*a*' for example, oblique types retain the more complex double storey structure of the roman '*a*.' Many of the cues that differentiate italic from roman and that prompt for the kinetic qualities of writing are therefore not to be found in oblique types. Yet according to Bellantoni and Woolman above, these types still 'possess a kinetic quality' and as they point out, this is associated with their inclination to the right. As Arnheim (1954/1974) also notes: "Oblique orientation is probably the most elementary and effective means of obtaining directed tension. Obliqueness is perceived spontaneously as a dynamic straining toward or away from the basic spatial framework of the vertical and horizontal." (p.424). This raises the question why should our basic spatial framework be vertical and horizontal? The answer from an embodied realist perspective is because of the upright posture of the human body. As humans, the vast majority of us experience the world from an upright position, perpendicular to the ground: walking, standing, sitting upright, etc. and this, according to conceptual metaphor theory (Lakoff and Johnson, 1980/2003), fundamentally influences our understanding, not only of the physical world, but (through metaphoric projection) our understanding of abstract concepts as well.

Texts involving metaphoric projections of movement

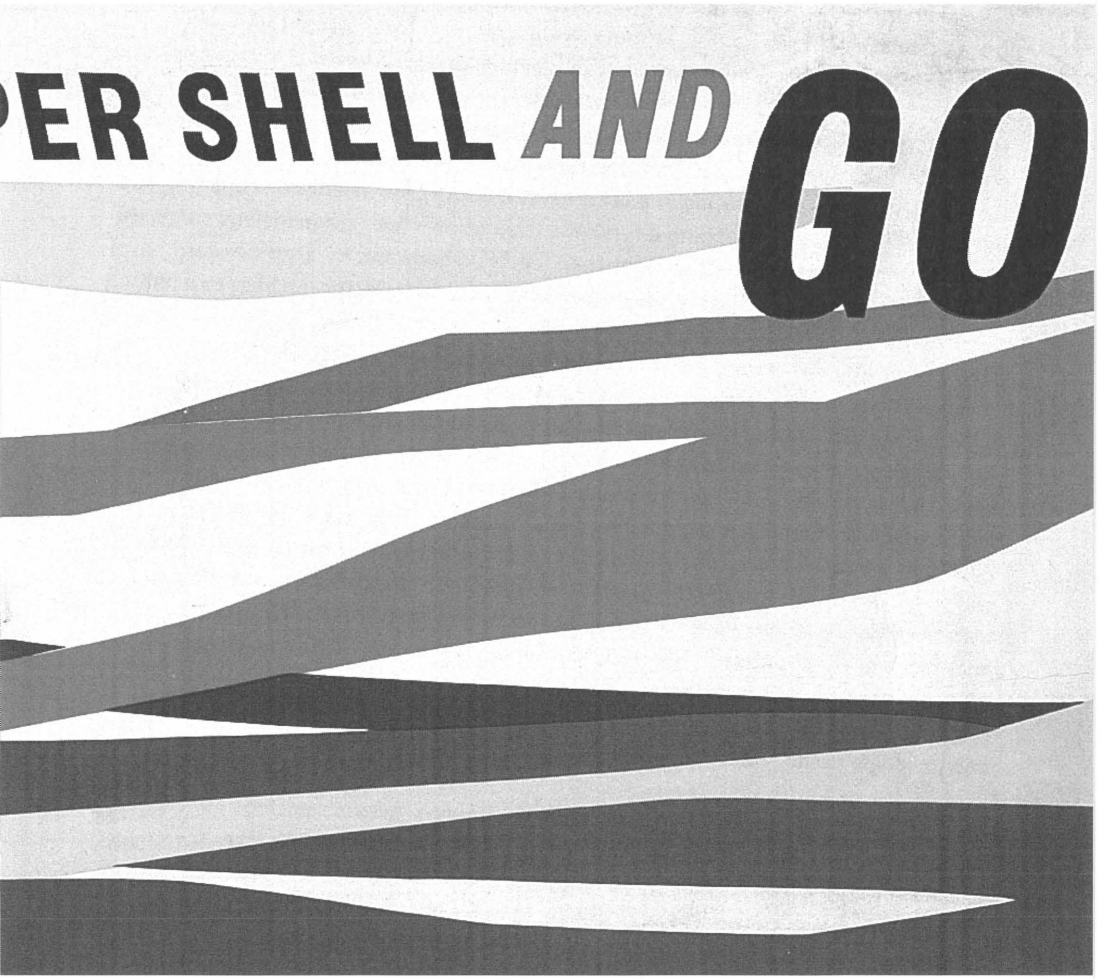
Two different kinds of projection are investigated below, those where:
a) embodied experiences of movement are projected onto letterforms and
b) those where movement suggested by letterforms is metaphorically projected onto a target domain related to the typeset words. The domain in question being *nonphysical:* that is, not directly related to the body.

Inclined letterforms and embodied experiences of movement

Part of the ongoing practice based project from which this paper derives explores the expressive use of italicization[1] to visualize *lexical concepts* (word meanings) associated with movement (such as ***'runner'*** and ***'car'***). As well as a sense of motion, these pieces of typography also seem to register an overall direction of movement (which we will call directionality). What seems clear from the examples in Figure 4 is that reading direction provides an overarching directionality, so that by laterally reversing the words the direction in which we feel the words are inclined to move is also reversed. Also, some words seem *well-formed*: by which I mean that the

1 Although 'italicization' is used here as shorthand, it is perhaps more accurate to use the term 'inclined letterforms' since forward and backward slanting italics and oblique type characters are all investigated.

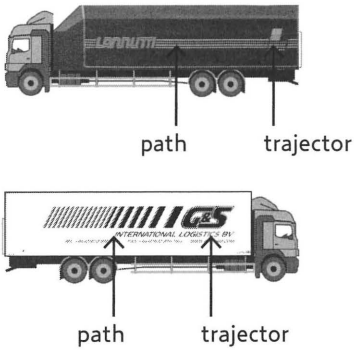
Figure 5 Zero (Hans Schleger), Stop for Super Shell and Go, 1958, Poster, (50.8 x 121.9 cm). Reproduced with permission of Pat Schleger. Photography Heini Schneebeli.


ER SHELL AND GO

force dynamics suggested by the italicization synchronizes with the lexical concept concerned and the directionality imposed by reading. Consequently it is relatively easy to imagine the play of forces that would result in a particular type of movement in a particular direction. So, for example, *'run,'* **'car'**, *'car'* and *'stop'* seem well-formed, whereas other words such as **'run'** seem less well-formed. This reveals some apparent contradictions; for example, both **'car'**, and *'car'* are well formed and yet are slanted in opposite directions, while only **'run'** seems to be well-formed out of *'run'* and **'run'**. The use of italicization in the typographic statement *'car'* should be counter-intuitive, since accelerating in a car creates a backwards inclination (pushing you back into the seat) and stopping a forwards inclination—*'car'* nevertheless suggests a greater movement from left to right than **'car.'** Furthermore, in *'stop'* forward slanting letters can help to give the impression of some trajector lurching to a halt.

This diverse range of results can be explained by the idea that users creatively construct meaning from italics using the repertoire of bodily experiences, image schemas, conceptual metaphors and conventionalized structure available to them. Accordingly, cues provided by the entire communicative act enable users to actively blend elements until some relatively stable interpretation emerges (an account of processes such as this is provided by blending theory (Fauconnier and Turner, 2002). In the case of *'car',* or the classic Hans Schleger poster, *Stop for Super Shell and go* (*figure 5*), the image schemas that viewers select are chosen in accordance with the meaning of the word/s (that is, the lexical concepts), and their existing knowledge of the situation in question (in this case car travel). This knowledge is grounded in embodied experiences. The experiences related to *'car'* being those of pushing, walking and running, where the weight of the body is thrown forward and the angle to the ground (in some phases of movement at least) is oblique.

Alternatively, in the case of **'car'**, and *'stop'* the image schemas selected relate to the embodied experience of traveling inside a moving vehicle. The backward slanting **'run'** is more problematic in that we appear to be much less inclined to utilize our experiences of driving to make meaning from 'run.' Yet this discrepancy may well be accounted for by the basic and fundamental nature of running or walking to the human experience. If metaphor is "understanding and experiencing one kind of thing in terms of another" (Lakoff and Johnson, 1980/2003 p.5) it would make little sense to explain one well understood thing



▲**Figure 6** Use of additional typographic elements to reverse directionality.
▶**Figure 7** Image schematic elements utilised in pantechnicon designs.

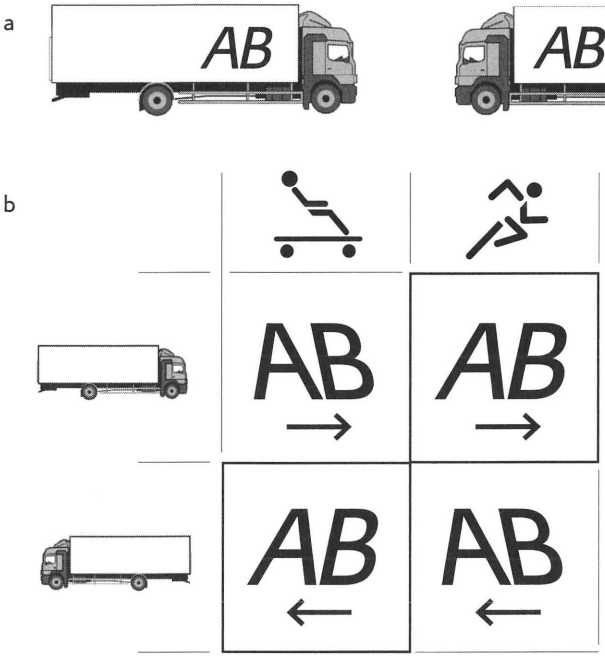


Figure 8 Diagram to show how the prevailing orthodoxy with regard to the uniform application of a logotype (a), can prompt for two different cognitive models, in this case based on bodily experiences of driving and running (the two columns in (b)). The arrows below the italic lettering refer to the direction of movement.

through the experience of something less well understood. The examples in Figure 4 all seem subject to the directionality imposed by the act of reading. This does not mean however that type will always appear to have a left to right directionality. By the addition of an arrow (*figure 6*), or by other typographic interventions type can easily be manipulated to suggest a right to left directionality. This underlines the complexity involved in communicative acts involving typographic modes of communication.

Pantechnicon designs that make use of italics provide further examples of issues of directionality and embodied experiences. As part of the project, thirty-eight pantechnicon designs incorporating italic or oblique typefaces were photographed and compared with the the SOURCE-PATH-GOAL-TRAJECTOR schema. The different designs prompted for one or more elements of the schema that were graphically represented on these pantechnicons in different ways (*figure 7*).

The boundaries of the communicative act in relation to pantechnicon trucks (tractor-trailer-trucks) includes the directionality imparted through the physical movement of these surfaces along our highways. Even when pantechnicons are parked there is still an implied direction of motion since the cab is located at the 'front' of the whole truck-pantechnicon ensemble. An asymmetry arises because of the relationship between the direction of movement of the truck to both the reading direction and direction of slant of the italics. On one side of the pantechnicon italics lean toward the direction of movement of the truck, on the other side they lean away from the direction in which the truck is traveling. Consequently, according to the explanation proposed here at least, each side of the pantechnicon is grounded in a different embodied experience (*figure 8*). These different experiences lead to a different handling of image schemas; primarily the compulsion schema which is concerned with the forces that compel movement. On one side of the pantechnicon the italics, grounded in the embodied experience of running, deliver the force; on the other side, the italics grounded in the experience of driving, are compelled by the force.[2]

The suggestion that visually, the same logotype is actively pushing, on the one hand, and passively being pushed, on the other, can provide potential for contrasting metaphors to be constructed. Mixed messages can therefore result; so that, for

2 See Talmy (2000, p.413) for an account of how similar force dynamic relationships occur in grammar.

example, there is a suggestion that, as an organization, a trucking company is dynamic or static, depending on which side of the pantechnicon is seen by the viewer.

Making metaphorical associations from inclined letterforms

An italic logotype seems to be a natural choice for a trucking company, in that the sense of visual movement derived from the letterforms, links to a core activity; the physical movement of the company's vehicles and the goods they contain. The same relationship however, does not exist between a company such as Microsoft and its italicized logotype; Microsoft's core activity is not centered on physical movement. Knowing a little about the kind of company Microsoft is, one reading of the logotype might be that it is a company moving toward the future. This movement is not literal but metaphorical. Furthermore, it is not inevitable, but requires effort, and this force dynamic is evoked by the use of italics. Consider this quote from the Microsoft (2003) website: "At Microsoft, we see a future full of potential. We're ... advancing our current products and embarking on fundamental research that paves the way for tomorrow's breakthroughs. ... Microsoft is working to push the state of the art forward in ways that benefit everyone." Here we can construct a scenario in which fundamental research 'paves the way' (the path) along which Microsoft (the trajector) pushes 'the state of the art forward' toward a perceptible future (the goal).

Admittedly viewers are unlikely to construct this scenario from the logotype alone. The more that is known about the company and its ethos however, the more potential there is to make meaning metaphorically from shared image schematic structure derived from the logotype and knowledge about Microsoft's view of itself.

Conclusion

Two different levels of metaphorical projections have been discussed in relation to italic and oblique types. The first kind is concerned with the use of image schemas (based on embodied experience), to metaphorically project qualities of movement onto the target domain of the letterform. This metaphoric projection provides an explanation for the conceptualization of movement in relation to slanted letterforms, and is entailed by metaphors such as FORM IS WEIGHT (Johnson, 1987) and OBLIQUE FORM IS MOVEMENT. The second level of metaphorical association, uses image schemas to project visual dynamics from the source domain of the letterform onto a nonphysical target domain relating to the words in the text concerned. These two

levels of metaphorical projection seem consistent with Johnson's (1987, p.99) exploration of balance where, firstly "balance in visual perception ... involves a metaphorical projection of schematic structure from the realm of physical and gravitational forces and weights to a domain of visual forces and weights" and secondly, where there is "a metaphorical projection from an image schema generated in the experience of physical balance onto [a] nonphysical or less clearly structured domain."

The examples provided go some way toward describing how italics can be more than a way of labeling a particular hierarchical level in a text. Italics are salient because of the sense of movement they suggest and this sense of movement can be used to construct metaphoric associations in different ways. A consideration of the role of image schemas within the whole communicative act, suggests ways in which visual communication can be made more coherent by providing typographic designs that clearly and consistently represent image schematic structure.

In terms of implications for the support of the user in graphic design, cognitive linguistics approaches provide a different understanding of the visual; away from a fixation on the meanings of things on the page, meanings that are consumed by users, towards an understanding whereby it is the users who construct meaning through cognitive work. And this work undertaken by users, utilizes similar image schema, metaphors and metonyms that communities of users have individually developed through common experiences. This shared conceptual structure provides a focus for study for graphic design practitioners and theorists. Consequently, by identifying the conceptual metaphors that structure the thinking of particular groups of users, designers should be better able to communicate more effectively. Such communication might either re-present the users' conceptual metaphors visually or provide visual cues for alternative conceptual metaphors. These alternatives could help users to think about a particular situation or issue in different ways. Furthermore, by identifying the conceptual metaphors underlying their acts of visual communication, designers should have a better understanding of their own (often unconscious) thinking in relation to the design choices they make and whether such choices are appropriate for the users that they are addressing.

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