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What modes can and cannot do: *Affordance* in Gunther Kress's theory of sign making

Abstract: This paper presents a conceptual analysis and critical review of the notion of 'affordance' and its uptake, transformation and application in the work of Gunther Kress. It traces its origins and explores how Kress, co-founder of social semiotics, (re) conceptualised affordance and incorporated it in his social semiotic theory of sign making, defining affordance in terms of the "potentials and limitations of specific modes". The paper discusses how his take on the term was received, and develops a radical critique questioning the analytical merits of affordance. It concludes with a call for a return to Kress's original question of exactly what it is about a form (signifier) that makes it suitable, in the eyes of the sign maker, for what they want to express (signified), and to consider materiality and social convention alongside the sign maker's lifeworld, audience, situation, and conditions of sign making.

Keywords: Gunther Kress; affordance; mode; signs; social semiotics; multimodality

1 Introduction

The notion of 'affordance' has been central to formative discussions of the now well established multimodal approach to the study of meaning making. According to Kress, one of the founders and major theorists of this approach, affordance "points to the potentials and limitations of specific modes for the purposes of making signs in representations" (Kress 2010: 157). Kress himself used the term very frequently, and increasingly so. In *Multimodal Teaching and Learning* (2001), the term occurs 26 times; in *Literacy in the New Media Age* (2003), 66 times; and in *Multimodality* (2010), 95 times.

Affordance has also been taken up widely by others in the field. Consider *Visual Communication*, a major outlet for multimodal research that has published around 400 articles (4 issues of 5 articles per year) between 2000 and 2020. In nearly half of them (192), the term appears at least once. The two textbooks on mutimodality that have come out so far (Bateman et al. 2017; Jewitt et al. 2016) both use the term (with

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some modifications/refinements), and mention the term 9 and 69 times, respectively. Jewitt et al. (2016: 72) describe affordance as "the idea that different modes offer different potentials for making meaning. Modal affordances affect the kinds of semiotic work a mode can be used for, the ease with which it can be done and how". This focus on the affordances of *modes* reflects Kress's interest, but he also frequently spoke of affordances of things other than modes, including natural objects and phenomena (body, electricity, light, movement), cultural technologies and artefacts (writing systems, tracings on surfaces, books, screens, smartphones) and the senses (seeing, hearing, touching) – in short, he considered the affordances of all resources that cultures have appropriated and developed to address their (social) needs and demands. Affordance is then used to suggest that something has been designed or used to create distinct possibilities for social action. This broader application is also emphasized by Bateman et al. (2017: 90), who write that "[w]hen seen in terms of affordances, an object is directly perceived in terms of the possibilities for action that it opens up for an agent in an environment". This leads them to discuss the distinct affordances of materialities, canvasses, media, and platforms, and also of specific modes, such as layout, gesture and language.

Another common articulation of the idea of affordance is to say that mode m is good at p, q and r, while mode y is good at x, y and z: "language is good at some things, but other things may be better covered in other forms of expression" (Bateman et al. 2017: 44), and: "Kress rightly emphasizes that each mode can do some things well […] and others less so, or not at all – its "constraints" (p. 185). The visual mode can excellently present concrete details, for instance, but is bad at rendering abstract concepts – unless by means of strongly coded symbols" (Forceville 2011: 3624).

With affordance having become a major conceptual anchor both in Kress's work and in the social semiotic literature more generally, I set out to address the following questions: What are the origins of Kress's idea of affordance? How did he adapt it and embed it in his conceptual frame? How did he integrate it in his theory of sign making and communication? What did it do or add to his theory? How did the idea subsequently shape his research programme? How has and can the idea been critiqued? What has it offered Kress, and what, if anything, might it offer current and future multimodalists? In addressing these questions, I document a critical shift in the history of Kressian social semiotics and multimodality, complementing earlier work on the very significant impact of the term and the theory behind it and the extensive accounts of its reconceptualisations and misrepresentations in psychology, Human–Computer Interaction, and other sciences (see e.g., Chong and Proctor 2020; Costall and Morris 2015).

The paper is structured as follows. In Section 2, I explore how Kress articulated his theory of sign making in the early 1990s, just before the notion of affordance

appears in his writing. In Section 3, I investigate how he subsequently took up *affordance*, and how his understanding of the term aligns with the work of James Gibson and Donald Norman. In Section 4, I explore how Kress embedded *affordance* in his theory of sign making from the early 2000s, and how this changed the theory in fundamental ways. In Section 5, I identify what research questions he pursued, prompted by the revised theory; and how he used *affordance* in accounts of meaning making. In Sections 6–8, I review and develop critiques of Kress's use of affordance, and draw my own conclusion about the analytical value of this notion.

2 Kress's theory of sign making

In *Against arbitrairiness: The social production of the sign as a foundational issue in critical discourse analysis* (1993), published in a special issue of *Discourse and Society* on critical discourse analysis, Kress outlines a theory of sign making, providing directions along which to look at the choices that people make in representation and communication. I use this paper as a starting point as it articulates a consolidation of Kress's thinking just before he brought in affordance. As we shall see, in the following decades he would refine and elaborate on, but not fundamentally change the main premises presented in this paper. As always, he used concrete examples to build his argument. Among the examples he considers in this paper are a drawing consisting of seven circles, made by his then four-year-old son, who had said that "this is a car" (an example that he would return to in many publications to come). The other example is of a sentence spoken by the same child while walking up a hill with his father: "This is a heavy hill". Kress then asks, Why did the child choose (so many) circles to represent a car, and why did he speak of a 'heavy' hill? This question leads him to consider these two communicative events from the following perspectives:

(1.1) The sign maker's perception, experience, and understanding of (the characteristics of) that which they want to represent (the signified).

(1.2) The sign maker's assessment of the signified in terms of the characteristics they deem to be "criterial", i.e., defining features of the signified.

(1.3) The resources and principles for expression that have become available to the sign maker through learning. They include 'pre-existing' signs/signifiers, such as words, which can be 'repurposed'. In the example of the child climbing a hill, the child re-uses the adjective 'heavy' to signify what he deems criterial of the action he is describing. In the case of the drawing, the child applies the principle of analogy: circles come to stand for wheels.

(1.4) The sign maker's perceived "aptness" of fit[1] between the (criterial features of the) signified and the available signifiers. In the case of the hill climbing, the child "selects an existing sign which in his view most nearly expresses aspects of the signified, namely 'heavy'" (Kress 1993: 173). That is, an existing sign becomes the signifier for a newly produced signified (Kress 1993). In the case of the drawing,

> […] the child decides that wheels are criterial in representing the signified 'car'. That decision then determines what may be an apt signifier, in this case circles. Wheels are selected as the criterial aspect of the object to be represented (the signified), and circles are apt signifiers in the sense that they adequately signfy, represent or express the characteristics of the signified. All signs are formed in this metaphoric process. All signs are metaphors. (Kress 1993: 174)

Kress presents the two examples to support his central thesis that "[a]ll signs are motivated in their relation of signifier to signified" (Kress 1993: 180): The child did not pick random signifiers (including words and visual forms), He picked signifiers he knew and deemed fitting. That this is antithetical to de Saussure, as the title of the paper suggests, is questionable. Claiming that the child selected the word 'heavy' as it most nearly expresses what he considers to be the defining features of what he is experiencing walking up hill does not contradict de Saussure's point that entirely different strings of sounds could have equally come to stand for the meaning(s) typically signified by 'heavy' in the English-speaking community.[2] The sounds that represent 'heavy' do not provide any clues that would enable sign makers who do not speak English to guess what it means, whereas the circles that represent wheels might, if the sign maker is familiar with the principle of analogy. Kress's proposition could therefore be taken as an addition to, rather than a rejection of, de Saussure's idea of arbitrariness.

In *Against arbitrartiness*, the sign *maker* and their *making* of signs becomes the object of study. In Kress's own words, this view has connections with the works of Hjelmslev (1943), Barthes (1982) and Eco (1976), with "the significant and crucial difference" being his attempt to "locate this process firmly in the social and cultural histories of the producer of the sign" (Kress 1993: 173). Kress further captured his perspective of the individual sign maker with the concept of interest: "'Interest' leads the producer of the sign to focus on a particular characteristic of an object or event,

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1 Kress later wrote that "[a]ptness focuses on 'fitness for purpose': 'this is the best fit (the most apt) for this purpose here'." (Kress 2010: 156)

2 And yet there is growing evidence that sign makers across different languages, writing systems and cultures make similar choices when asked to combine words with shapes, choosing 'bouba' for the round and 'kiki' for the spiky shape offered. While this does not entirely contradict arbitrariness in the Saussurian sense, it does suggest that sign makers consider the 'aptness of fit' between signfiers and signifieds following a principle of analogy, in this case, between features of the visual shapes and features of the sounds of words (Ćwiek et al. 2022).

that is, make it the basis of the production of a signified" (Kress 1993: 174). Interest stems from "the individual's social and cultural histories", and "the context of an interaction with other constitutive factors of the situation which are considered as relevant by the individual" (Kress 1993: 174). Thus it encapsulates both (a) an individual's journey, their experiences, their learning (what we might call their ontogenesis); (b) social and cultural history (or philogenesis); and (c) the social needs and wants that arise in a concrete communicative situation. This 'crossing' of individual and social histories, and the here-and-now would continue to define his conceptual framework and would soon be supplemented by consideration of the *material* environment and adoption of the notion of affordance.

3 The arrival of *affordance* and *mode*

Four years after publication of *Against Arbitrariness*, Kress worked on a project called "The Rhetoric of the Science Classroom" (1997–1999) with Jon Ogborn, then professor of science education at the Institute of Education. It was Ogborn who introduced Kress to the notion of affordance: "Jon decisively 'scaffolded' one of my more stumbling semiotic attempts by throwing the word 'affordance' into the conversation" (Kress 2010: xiv). Ogborn recalls:

> I do happen to remember the occasion that Gunther mentions, when I suggested during a discussion that he needed the idea of Affordance. It arose because we were trying to think about what different modes of communication made differently possible, or at least easier or harder to achieve. My inclination, from a scientific background was to think of the physicality of different modes, being always impressed by the sheer intransigence of material things. As I used to say to Gunther, "One can *imagine* whatever one wishes, but one cannot *do* whatever one wishes; the real world hits back." (Jon Ogborn, pers comm. Oct 2021).

A book under the project title was to appear two years later in which the term is central to the problem statement. The team write that they considered "the affordances of each of the modes, that is, we asked the question 'What constraints and possibilities for making meaning are offered by each mode [...] and what use is made of them?' [...] 'what potentials for meaning-making are available in each mode, and how are these potentials arranged ('structured') to make meaning?" (Kress et al. 2001: 13). They noted that "different modes take on specialised tasks, broadly along the lines of their inherent affordances" (p. 14) and that "each mode is culturally shaped around the constraints and affordances of its medium – its *materiality*." (Kress et al. 2001: 15)

     Two things stand out from these quotes. First, while in *Against Arbitrariness* (1993) there already is mentioning of 'multi-modality', the term 'mode(s)' is not yet

used. By now, *mode* has (a) become a central term in describing the aims and focus of Kress's research programme; and (b) is defined in terms of *affordance*, which in turn (c) is defined in terms of (i) *materiality* or *inherent* physical properties; and (ii) *social and cultural conventions* of using these properties for communication. Where 'mode' elaborates on the third premise of the scheme first presented in *Against Arbitrariness* (what I paraphrased above as resources and principles for expression available to the sign maker), 'affordance' elaborates on the fourth part (what I paraphrased as the sign maker's assessment of the aptness of fit between the available signifiers and the signified).

Secondly, the research question, 'What constraints and possibilities for making meaning are offered by each mode […] and what use is made of them?' places modes in the foreground, and sign makers in the background. The researcher is asked to (objectively) describe what a mode can do, and to compare and contrast this with what sign makers actually did with them. This is an important difference with Kress's original formulations of sign making in *Against Arbitrariness*, which started from the sign maker's unique socio-cultural history, and the context and conditions of the sign making event (cf. "Why did the child choose (so many) circles to represent a car, and why did he speak of a 'heavy' hill?"). In the new formulation, it is the force of the (material and social) environment that 'tames' the individual that is highlighted. The two formulations are not contradictory, but they do point to a subtle variation in the starting point for an account of meaning making, a shift from 'what did the sign maker do here' to 'what can modes generally do'.

That the term "affordance" was coined by the American psychologist Gibson (1979) is perhaps well known, but not routinely acknowledged in Kress's work or in the social semiotic literature more widely. Kress was aware of the original work, having been introduced to it by Jon Ogborn, and having participated in discussions about it with other colleagues in the Institute of Education.[3] Yet he does not cite it in *Multimodal Teaching and Learning* (2001) or *Literacy in the New Media Age* (2003), and references it only once in *Multimodality* (2010), where it appears somewhat out of place.[4] Kress never claimed to follow Gibson's notion or indeed any subsequent writers' reformulations of affordance, but we ought to briefly acknowledge their work.

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3 Sometime in the mid-2000s, Gunther Kress, Carey Jewitt, myself, and others discussed Kress's take on the term with Martin Oliver, who had just written a critique on the term (Oliver 2005).
4 Cf. "'What, actually, is language like?'. 'Affordance' – the question of potentials and limitations of a mode – applies to all modes, and 'language' is no exception (Gibson 1979)." (Kress 2010: 84) This reference to Gibson seems out of place as Gibson did not write about 'modes'; nor did he engage with the question of what language is (like).

In his final book, *The Ecological Approach to Visual Perception*, Gibson writes:

> The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment. (Gibson 1979: 115)

Jon Ogborn reminisces:

> Gibson's notion of affordance offered us a way to achieve a theoretical complementarity (to use Gibson's word) between, on the one hand, the endless malleability of human communicative acts, always in flux, and on the other hand, the decisive material constraints put upon them by the physical nature of the means they use. And I think that this Gibsonian complementarity is in general how Gunther went on to use the idea. (Ogborn, pers comm, Oct 2021)

Gibson was concerned with the relation between humans (and animals) and their environment. He argued that humans perceive physical objects and surfaces in terms of the actions that they afford, that is, the opportunities that they provide for action, relative to the action capabilities of the perceiver that are derived from their physiological-biological make-up. An apple on a tree may be 'grabbable' for tall animals and humans but not for others. Donald Norman, whose work has helped popularise this take in the 1990s, reformulates it as follows:

> [...] the term *affordance* refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used. [...] Affordances provide strong clues to the operations of things. Plates are for pushing. Knobs are for turning. Slots are for inserting things into. Balls are for throwing or bouncing. When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction needed. (Norman 1988: 9)

The idea of seeing things in terms of their action possibilities resonates strongly with Kress's uptake of the term, but there are important differences. In line with Gibson (and Norman), Kress considers affordances of objects and surfaces, and more generally the affordances of 'stuff' that humans can source from the environment.[5] Also in line with Gibson (and Norman) is that he presumes that affordances exist independent of sign makers, and that the properties of 'stuff' and their potential for action can be objectively described (leading to what I will later describe as 'Project 1' and 'Project 2', respectively). Their potential may or may not be utilised by individual sign makers or groups of sign makers. The degree to which affordances are 'picked up' depends on the capabilities of the perceiver/sign maker, and, in Gibson's account, also on the relative position of their bodies in the environment, which is in constant flux.

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5 Cf. in Kress (2010), affordances of hardware (p. 186), electricity (p. 36), sound (p. 61), body (p. 82).

Yet, where Gibson and Norman were primarily interested in what kinds of *physiological* action possibilities sign makers/perceivers see in things (grabbing, passing through, etc.), Kress was ultimately interested in what kinds of *semiotic* possibilties sign makers see in things, i.e., what *social* actions are afforded by things, and how this leads to the development of modes (which are not tangible in the way that Gibson's objects and surfaces are). Kress's attention to the material environment was an addition to, not a replacement of, his basic premises on the social. There are also important differences in relation to Gibson's radical claim, then and now still, that affordances can be directly perceived without recourse to some notion of a (socially shaped) process of constructing mental images from visual input, or to Norman's idea of clues.

4 Kress's revised theory of sign making

Ten years on, affordance has become the central pillar of Kress's theory of sign making: "Foremost among the terms integral to this theory is that of affordance", writes Kress in *Multimodality* (2010: 157). From his writings of this time we can infer that the concept serves to draw together the following premises:

(2.1) Modes have distinctly different affordances, i.e., potential or possibilities and limitations for meaning making: "[Affordance] points to the potentials and limitations of specific modes for the purposes of making signs in representations" (Kress 2010: 157). This reflects the absolute perspective discussed above, which presumes that it is possible to conceive of (and possibly even describe) 'meaning potential' of a mode and/or the materiality it draws on at some general level, *independent of* individual sign makers and instances of sign making.

(2.2) Affordances include both inherent material properties and social and cultural conventions: "Affordance rests, on the one hand, on the materiality of the stuff, which work in social environments has fashioned into a cultural and semiotic resource on the other hand" (Kress 2010: 157).[6] More specifically,

(2.2a) Materiality refers to "for instance the material of sound in speech or music, or graphic matter and light in image, or of the motion of parts of the body in gesture"

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[6] Since *Literacy and the New Media Age* Kress also occasionally uses the term 'facilities', seemingly interchangeably with 'affordances': "the facilities, affordances, potentials and limitations of contemporary technologies of representation/production/communication" (Kress 2010: 96), "facilities and affordances of the media involved" (Kress 2010: 137), "The facilities/affordances of the new technologies" (Kress 2010: 184) and "Facilities of the screen" (Kress 2010: 170). Echoes of this idea can be found in Bateman et al. (2017: 222) who are concerned "with just how different materialities may support different kinds of communicative situations".

(Kress 2003: 45), and "[t]he materiality of modes […] holds specific potentials for representation, and at the same time brings certain limitations" (Kress 2003: 45).

(2.2b) Socially and culturally made affordances refer to the prior semiotic work that was done with materiality by a specific community in response to their needs and demands:

> The social work performed ceaselessly by members of social groups with the affordances of the material, together produce semiotic resources. That is, modes are the product jointly of the potentials inherent in the material and of a culture's selection from the bundle of aspects of these potentials and the shaping over time by (members of) a society of the features selected. (Kress 2010: 80–81)

(2.3) Affordances can orient sign makers, prompting them in certain directions, thus mitigating their choices for representation:

> The modes and the kinds of uses made of mode in a society bring with them certain orientations, a certain 'take' on the world. By and large, that 'take' becomes 'invisible' (inaudible, intangible) – in the sense of explicit awareness – to those who do 'take' it. Cultural and social habituation to modes, genres and practices shapes how we represent. In time that habituation to represen- tation can begin to shape our expectations about how we will encounter and engage with the world which we then represent. Within the broad range of modal choices available in a society, there is then the individual's decision to make choices to use these modes rather than those in this environment for these reasons. (Kress 2010: 76)

(2.4) There is variation in the use of modes across 'space'/different communities or social or cultural groups, and modes change over time. Different groups make use of different sets of material affordances and they can end up using them for different social purposes:

> The uses of mode constantly reshape its affordances along the lines of the social requirements of those who make meanings; that ensures that mode is constantly changed in the direction of social practices and requirements. Modal change tracks social change. Whatever is not a social need does not get articulated nor elaborated in the entities of a mode. As a consequence, the potentials inherent in materiality are never fully used to become affordances of a mode in a particular culture; nor are all the affordances which are available used for similar purposes across different cultures. (Kress 2010: 81)

Thus, there are three forces that Kress aims to account for: the material, the social and the individual. Whereas in the 1993 paper it was the individual that was emphasised (and that was presented as what set it apart from other theories), now the material and social environment is foregrounded. Ultimately, though, Kress (2010: 184) holds that "the social is prior". The material environment provides a structural basis but the social turns it into cultural, semiotic resources, which can push sign makers in directions without them being aware of it. Individuals can

access, choose from, and transform resources, but they cannot escape them. Affordance has thus become a rhetorical device to recognize and straddle the individual, the material and the social forces that shape sign making, a way to recognise *and* bypass twentieth century debates about agency and relationality by theorists like Giddens (1979) and Latour (2005).

5 Researching affordances

In *Multimodal Teaching and Learning* (2001), affordance, along with mode, already defined the research questions. But what did it lead Kress to do next? How did it shape the research that Kress subsequently initiated and/or called for? Looking back on the two decades of work that followed, I suggest that he pursued two distinct projects.

5.1 Project I: how can we describe the basic characteristics of modes?

One of Kress's ambitions has been to develop ways of comparing and describing the basic characteristics of modes. Dimensions of comparison that Kress considered include (properties of) the materiality of modes (e.g., air, light); the 'logic' of modes (time or space); the resources they have (e.g., words, depictions); the degree to which they are conventionalised; and their 'functional load' and 'specialisation' or 'reach'. The suggestion is that material properties afford distinct logics, which in turn afford the development of distinct, shared, specialist resources by a group of sign makers in response to their specific needs. Individual sign makers can then draw on and adapt and adopt in response to their specific needs. Using the mode of speech and the mode of image as examples, Kress describes logics in terms of the temporal and spatial organisation of the materials, which give rise to distinct entities in modes:

> The resources of the mode of image differ from those of either speech or writing. Image does not 'have' words, nor sounds organized as phonology, nor the syntax and grammar of speech or writing, nor any of their entities/units. There is no point searching for syllables, morphemes, words, sentences, clauses or any other language-based category in image. While speech is based on the logic of time, (still) image is based on the logic of space. It uses the affordances of the surface of a (framed) space: whether page or canvas, a piece of wall or the back or front of a T-shirt. In image, meaning is made by the positioning of elements in that space; but also by size, colour, line and shape. Image does not 'have' words; it uses 'depictions'. Words can be 'spoken' or 'written', images are 'displayed'. Image uses 'depictions', icons of various kinds – circles, squares, triangles for instance. Meaning relations are established by the spatial arrangement of entities in a framed space and the kinds of relation between the depicted entities. (Kress 2010: 82)

We might think of this project as an extension of the work of linguists, who analyse and name the constituent elements of speech and the principles by which speakers combine and transform these elements to produce sentences and perform social actions. While this results in mode-specific descriptions, Kress wanted to develop a pan-modal analytical apparatus and a unifying language for describing modes to complement the typologies of established disciplines that have already studied individual modes. The project of identifying distinctive characteristics through comparison resembles the ambitions of language typology, which aims to identify and compare (grammatical) principles across different languages. The question then becomes one of what principles are shared by which languages, and how different languages achieve similar effects (e.g., marking subject and object) using different devices (fixing word order, using case marking).

5.2 Project II: what possibilities for expression do the basic characteristics of modes offer?

The other task that Kress (2005: 12) set himself was "finding principles that will show the 'affordances', distinct potentials and limitations for representation of the various modes". The answers to this question tend to take on either of the following forms:

(3.1) Claims about what representational/communicative tasks a given mode is well equipped for, suitable for, what it lends itself for. This is related to the idea of goodness of fit and is used to explain the modal choices that sign makers make. Here is an example from *Gains and Losses*, contrasting the spoken/written with drawing in the context of a museum visit:

> The temporal and sequential logic of speech, and, leaning on speech, of writing, lends itself to the representation of actions and events in time; hence, the ubiquity of forms of narrative in human cultures; hence also the ubiquity of the event and action oriented uses of speech and writing. The question asked by speech, and by writing, is: "what were the salient events and in what (temporal) order did they occur?" The spatial and simultaneous logic of image representation lends itself equally readily to the representation of salient entities and their (spatially expressed) relations. Display is, in respect to its prominence and significance and ubiquity, the analogue of narrative. The question asked by display is: "what were the salient entities in the visually encountered and recollected world, and in what order are they related?" From these affordances, and from these logics, develop distinct ways of representing the world. (Kress 2005: 14)

The point is demonstrated by a drawing and story produced by a school child after having visited the British Museum in London, which he says is typical of how the class responded to the teacher's task: "The day, as recollected in the mode of (speech-like) writing was a day of action-events. […] The day, as recollected in the mode of

image, was a day of encountering significant objects in a particular space. There is no hint of narration." (Kress 2005: 14)

(3.2) Claims about how a given mode enforces particular types of text or genres. Affordances are variably referred to as 'possibilities and potentialities' and 'constraints' or 'limitations'. Modes impose certain structures or constraints onto the meaning maker. In *Gains and Losses* (2005), Kress cites an example from the *Rhetoric of the Science Classroom* project, in which students are asked to draw a cell ('a cell has a nucleus'):

> If I say, "A plant cell has a nucleus", expressing this bit of knowledge through the mode of writing (or speech) I have to relate the entity "plant cell" with the entity "nucleus" via the verb "have". […]. When I draw a cell, say to demonstrate what it might be like, on a whiteboard, I will draw a circle-like entity and place a dot somewhere in that circle. I do not have to express anything about the characteristics of the relation between nucleus and cell – the spatial arrangement does that for me. However, anyone looking at the drawing is entitled to infer that where I have placed the dot is where the nucleus is supposed to be. The mode of depiction forces me into an epistemological commitment, different to that which writing also forced me to make. One is about position in a framed space; the other about a type of (named) relation. (Kress 2005: 16)

What is suggested here is that the choice of mode has implications for representation which may or may not be a deliberate and voluntary choice: a mode 'forces' one into a commitment to a particular type of representation. This is a slight moderation of the idea of 'goodness of fit' when it was first presented in *Against Arbitrariness* (1993), which assumes that sign makers can choose freely. There is an echo of critical discourse analysis here, and its aim to render visible invisible forces, and unintended or unforeseen outcomes of choices in discourse.

(3.3) Claims about how a social need is achieved (differently) in different modes. In this approach, the starting point is not a characteristic of a mode and a consideration of possibilities that are presumed to flow from it, but the needs that individuals and groups are presumed or known to have. The question then becomes, how can this need (e.g., to express intensity) be realised in this or that mode (through sound in speech, through boldness in writing, saturation in colour), or in this or that combination of modes? (Bezemer and Kress 2016). This is a different approach than (3.1) and (3.2). Rather than explaining observed modal choices in terms of presumed differences in what modes can and cannot do, or evidencing those differences with a single empirical example (3.3) invites us to consider, as a form of armchair research, how 'we' might achieve social needs using different resources. This could then be tested empirically by designing tasks reflecting certain needs to representatives of a community of interest.

6 Critiques of Kress's notion of affordance

Subsequent multimodalists and external commentators have questioned the tenability or feasibility of these projects, notably the second one aimed at identifying possibilities for expression. Some have sought to narrow the term down, whereas others draw more radical conclusions.

Prior (2005) levelled a direct response to Kress's paper on *Gains and Losses* (2005), in which Kress dates and reflects on shifts in the use of image and writing and its implications ('what might be gained and what might be lost'), comparing a page from *The Boy Electrician*, a page from the 1992 Institute of Education (IOE) prospectus, and a page from the IOE website from 2004, and exploring several children's drawings. He suggests that Kress's notion of affordance is deterministic (also see Street 2004). Prior (2005: 26) sees Kress's treatment of affordances as "highly determinative, mutually exclusive, and binary". Indeed, in the 2005 paper Kress makes particularly strong claims about the differences in affordances of writing and image. In Prior's (2005: 26) words, "Words in his [i.e. Kress's] account are finite, sequential, vague, conventional, authored, narrative and/or causal, and open to critique. Images are infinite, spatial, specific, natural and transparent, viewed, and available only for design". He cites from the paper to illustrate this: "With depiction and images the situation is different: that which I wish to depict, I can depict […] I can draw whatever I like whenever I like to draw it. Unlike words, depictions are full of meaning; they are always specific" (Kress 2005: 15). Prior notes that making such general claims about image goes against the *Reading Images* project (Kress and Theo 1996), which led to a detailed analytical apparatus to differentiate between different types of images, and to recognise both 'conceptual' *and* 'narrative' structures in image.

Oliver (2005) comments on Gibson's original notion of affordance and on the way in which it has been taken up in studies on technology, design, and human computer interaction.[7] He argues that "…all that could be said then is that a thing afforded something to someone in a specific circumstance, not that it affords it in general. This path of diminishing returns trivialises the concept analytically." (Oliver 2005: 403). He also critiques the idea of affordance as 'action possibilities' (a phrase that he ascribes to Norman (1988/2013):

> 'Possible' leaves nothing substantial to work with, unless a definitive list of possibilities can be constructed from the properties of each element separately, and their various interactions. This is only feasible if people and things can be exhaustively described, which presupposes both an essentialist, positivist epistemology (which is consistent with Gibson's position) and a finite number of characteristics (which is not: see p. 243). Lacking this, 'possible' is a work of imagination and 'affordance' becomes speculative rather than analytic. (Oliver 2005: 403)

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7 It appears in the list of references in *Multimodality* (2010) but Kress does not cite it.

Is there a way around this? We could take a situated approach, as Oliver suggests, and consider the range of factors that affect sign making in an observed event. Take the mode of gesture. Pointing (with a hand gesture, or with a pointing device, such as a pen) can be a very effective means of drawing attention to an object in the environment, but it is only effective if it is within sight of the addressee, which depends on the relative position of and distance between the gesture maker and the addressee; the visual abilities of the addressee and their willingness to engage with the gesture; the lightness in their surround, and so on. The question is then not what possibilties gesture *has*, but what possibilities they *have for* certain sign makers under these specific circumstances (e.g., the possibility to draw attention to a specific spot in the environment; e.g., where to drill a hole in the wall).

Bateman et al. (2017) follow this line, emphasizing that it is only possible to claim that a thing afforded something to someone in a specific circumstance, and that it is not possible to make general claims about what a mode can or cannot do. They make a clear distinction between the project of describing *properties* of "[t]he particular canvases in which the material distinctions carrying communication may be inscribed" and the *possibilities for action* that they open up to individual sign makers. The properties do not determine the possibilities: "Note that this is not to say that particular materials can only carry particular kinds of meanings" (p. 250). They share Kress's ambition to describe basic material properties ('Project 1'), offering a 'simplest systematics of communicative media according to the affordances of their involved canvases', and suggest descriptive dimensions such as static–dynamic, 2D–3D, permanent–fleeting (see also Van Leeuwen 2005). They differentiate between canvases that afford unfolding in time, planning and design, layout, movement, actions and reactions. The authors also support a version of Kress's idea of 'aptness of fit':

> […] while we cannot derive from a particular canvas any statements about what can be represented, we can say much about how it might be represented. A particular canvas will only make certain material distinctions available and not others, and this is what is available for meaning-making. (Bateman et al. 2017: 251)

> […] it needs to be noted that it is very unlikely that a semiotic mode will 'go against' the affordances of its material. That is, to take the example of the drawing of the cell again, placing the nucleus spatially within the drawn boundaries of the cell is hardly going to mean, in any semiotic mode, that the nucleus [sic, presumably this should read 'cell'] is to be understood as not containing the nucleus! (Bateman et al. 2017: 294)

Focussing on actual situations still requires that we move beyond the analysis of artefacts and use the full spectrum of social research methods to understand the conditions of sign making. Commenting on *Gains and Losses* (2005), Prior (2005: 28) already noted "the focus on semiotic artifacts" and "an almost total neglect of semiotic practices".

7 The affordance of affordance

The critique discussed so far renders Kress's second project, to map possibilities and limitations of modes, untenable, unless they are considered in the context of a concrete observed communicative event.

Yet, a more narrow, time- and space-bound, situated, provisional take on affordance still leaves us with other challenges, including Oliver's (2005) point about its analytical merit. Consider here Kress's reflections on a science textbook from 2002. Looking at what writing and image are used for in this particular textbook, he concludes that "Image shows those curricular materials which are best – most aptly – represented in image" (Kress 2010: 47). This is not a generalisation about what image can do and it does not suggest that the choice of image has determined the representation. Yet we have no way of disproving the claim about the aptness, or 'best fit' between the (properties or possibilities of the) mode of image and the curriculum contents that need to be represented. The principle of aptness appears to simply always apply. If all choices that sign makers make can always (only) be explained in terms of the affordances of modes ('a person p uses a mode m here to do y as m generally affords (p to do) y'), then what new insights does it generate? For the concept to have analytical value, we ought to also be able to identify examples that cannot be explained in terms of affordances and their aptness for particular (presumed or investigated) representational purposes.

When aptness is always presumed, affordance risks closing down a line of inquiry that Kress had previously followed. In *Against Arbitrariness* (1993), Kress's driving question was not yet, What are the affordances of modes that can explain the choices of sign makers? It was, How can this or that signifier come to stand for this or that signified in this situation? What is it about the signifier that makes it apt to the sign maker for ('afford' representation of) the signified? Thus he actively explored how wheels may have come to represent a car, and 'heavy' a feature of a hill, in the lifeworld of his then 4-year-old son. There, the answer was not that the child used circles as they are apt signifiers of a criterial feature of wheels, he went to explain *why* they are apt, suggesting that the child applied the principle of analogy: 'wheels are like circles'. We could add that this is about the analogy between the shape of the form that is being represented (the signified) and the shape of the form that is representing it (signifier). Incidentally, the example also demonstrates the value of (auto-)ethnography in addressing this question, as the sign maker's choices could not have been explained in terms of (the affordances of) modes alone. As Kress rightly suggested in *Against Arbitrariness* (1993), we also need to consider the sign maker's lifeworld and the situation, including setting, co-presence of other social actors, and activity being undertaken.

8 A personal conclusion

I draw the following conclusions from my reflections on Kress's theory of sign making and the role of affordance within it.

As a social semiotician, I aim to understand how a sign is made in concrete artefacts or events, therefore I need to consider what the forms that are used mean according to local conventions, and how the sign maker draws on, transforms or transgresses these conventions. When new (unconventional) forms are used, I also need to consider the qualities of the material from which the forms are fashioned. In all instances I need to seek to investigate, and give consideration to, the unique life experiences of the sign maker and their audience and the conditions of the sign making. Without one or the other, I cannot reliably explain the semiotic choices that the sign maker has made.

To do so I need a language to describe features of modes and principles for building sign complexes or multimodal formations, including grammars and typologies of the material differences between modes (which I referred to as Kress's Project I). I cannot rely on or help compile an exhaustive inventory of what it is possible to do or not in this or that mode (Project II), but I can, with each analysis of a sign making event, aggregate our understanding of conventions for making meaning with certain sets of material resources, i.e., of the ('preferred', 'common') use of modes in specific periods, spaces, and social networks. Adopting William Labov's famous words slightly, the slogan for this larger project of surveying semiotic landscapes could be, Who makes what sign for whom, when, where, why and how? More specifically on the how-question, How does this form produced by this person on this occasion mean? What is it about the form that makes it suitable, in the eyes of the sign maker, for what they want to express? This needs to be explained through a combination of factors, including materiality, convention, (imagined) audience, and the conditions of sign making.

I believe that this can be achieved – producing plausible, situated accounts of sign making, and documenting norms and conventions for specific communities of sign makers – using the scheme that Kress laid out in his writings from as early as 1993, and without recourse to explanations that refer to affordances as possibilities and limitations of modes or semiotic resources. What affordance *has* brought to social semiotics is further recognition of the material environment, and its intricate relation to the social. It has drawn attention to the ways in which cultures and individual sign makers turn material into cultural resources for meaning making, and to the specific qualities of material, which can help explain how modes have developed and how someone has made a sign in a given situation. We can pursue these ambitions even if we remove affordance out of the social semiotic conceptual framework. Rather than closing anything down, this would open up new avenues for analyses and conceptual advancements.

References

Barthes, Roland. 1982. *Mythologies*. London: Granada.

Bateman, John, Janina Wildfeuer & Tuomo Hiippala. 2017. *Multimodality: Foundations, research and analysis. A problem-oriented introduction*. Berlin: De Gruyter Mouton.

Bezemer, Jeff & Gunther Kress. 2016. *Multimodality, learning and communication: A social semiotic frame*. London: Routledge.

Chong, Isis & Robert Proctor. 2020. On the evolution of a radical concept: Affordances according to Gibson and their subsequent use and development. *Perspectives on Psychological Science* 15(1). 117–132.

Costall, Alan & Paul Morris. 2015. The "textbook Gibson": The assimilation of dissidence. *History of Psychology* 18(1). 1–14.

Ćwiek, Aleksandra, Susanne Fuchs, Christoph Draxler, Eva Liina Asu, Dan Dediu, Katri Hiovain, Shigeto Kawahara, Sofia Koutalidis, Manfred Krifka, Pärtel Lippus, Gary Lupyan, Grace E. Oh, Jing Paul, Caterina Petrone, Rachid Ridouane, Sabine Reiter, Nathalie Schümchen, Ádám Szalontai, Özlem Ünal-Logacev, Jochen Zeller, Marcus Perlman & Bodo Winter. 2022. The *bouba/kiki* effect is robust across cultures and writing systems. *Philosophical Transactions of the Royal Society London B: Biological Sciences* 377(1841). http://doi.org/10.1098/rstb.2020.0390.

Eco, Umberto. 1976. *A theory of semiotics*. Bloomington: Indiana University Press.

Forceville, Charles. 2011. Multimodality: A social semiotic approach to contemporary communication. *Journal of Pragmatics* 43(14). 3624–3626.

Gibson, James. 1979. *The ecological approach to visual perception*. Boston: Houghton Mifflin Harcourt.

Giddens, Anthony. 1979. *Central problems in social theory: Action, structure, and contradiction in social analysis*. Berkeley: University of California Press.

Hjelmslev, Louis. 1943 [1969]. *Prolegomena to a theory of language*. London: University of Wisconsin Press.

Jewitt, Carey, Jeff Bezemer & Kay O'Halloran. 2016. *Introducing multimodality*. London: Routledge.

Kress, Gunther. 1993. Against arbitrariness: The social production of the sign as a foundational issue in critical discourse analysis. *Discourse and Society* 4(2). 169–191.

Kress, Gunther. 2003. *Literacy in the new media age*. London: Routledge.

Kress, Gunther. 2005. Gains and losses: New forms of texts, knowledge, and learning. *Computers and Composition* 22(1). 5–22.

Kress, Gunther. 2010. *Multimodality. A social semiotic approach to contemporary communication*. London: Routledge.

Kress, Gunther, Carey Jewitt, Jon Ogborn & Charalampus Tsatsarelis. 2001. *Multimodal teaching and learning. The rhetorics of the science classroom*. London: Continuum.

Kress, Gunther & Van Leeuwen Theo. 1996. *Reading images. The grammar of visual design*. London: Routledge.

Latour, Bruno. 2005. *Reassembling the social: An introduction to actor-network theory*. Oxford: Oxford University Press.

Norman, Donald. 1988. *The psychology of everyday things*. New York: Basic Books.

Oliver, Martin. 2005. The problem with affordance. *E-Learning* 2(4). 402–415.

Prior, Paul. 2005. Moving multimodality beyond the binaries: A response to Gunther Kress' "Gains and Losses". *Computers and Composition* 22(1). 23–30.

Street, Brian. 2004. Futures of the ethnography of literacy? *Language and Education* 18(4). 326–330.

Van Leeuwen, Theo. 2005. *Introducing social semiotics*. London: Routledge.

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