

*Main Article:*

## **Forms and Levels of Expertness: Interpreting Accounts of Typeface Design**

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### **Abstract**

This article responds to problems arising from defining the notion of “expert” with respect to the subject of text typeface design. What and who is a type design expert? The author has identified that in both contemporary and historical contexts, paucity exists in relation to recorded knowledge regarding the processes of designing text typefaces. Accounts of knowledge of the practice of text typeface design differ in their perspectives relating to what may be deemed expertness. In attempting to explain or rationalize differences in perspectives of such accounts of practice, the problem of describing expertness arose. In terms of degrees of expertise relative to accounts of subject knowledge in text typeface design, the author developed the concept of “vicinage” in order to explore how we render expertness within research enquiry. This concept has the potential to focus future research in the area of defining expertise in typeface design and more generally beyond this field.

**Index Terms:** typeface design; metal type; digital type; insider perspective; outsider perspective; emic and etic; level of expertness

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### **1. Introduction**

Often seen as set within the subject domain of typography, typeface or type design is a specialist area that concentrates on the designing of letterforms, characters, or glyphs conceived to work in relation to one another within specific sets. These are in turn, along with spacing designed relative to the glyphs, presented as a group of accessible functioning entities in the form of a font. Text typeface design can often be a lengthy and solitary endeavour on the part of the designer. However, there is little guidance regarding the processes involved in the designing of type to draw upon.

This article discusses problems in connection with defining the term *expert* in relation to text typeface design. This relates not only to definitions of what is expertise and who is an expert, but also relates to notions of how expert is an expert. Terms such as expert can be somewhat difficult to frame or articulate with any degree of accuracy. The author of this article found this to be the case when considering perspectives from which extant accounts of text typeface

design had been written. The article therefore examines the accounts of knowledge of the practice of text typeface design, in particular how they differ in their perspectives relating to what may be deemed expertness, and addresses problems of describing expertness when attempting to rationalize differences in perspectives of such accounts.

First, this article provides background and context relating to the subject of text typeface design. Second, problems relating to documented knowledge in the subject area are discussed. The article then pinpoints problems relating to extant accounts of text typeface design with regard to expert and non-expert perspectives. This leads to a general discussion of how expert and non-expert perspectives of a given subject may affect the conceptual framing of that subject. Finally, the author introduces the concept of *vicinage* as a means by which to consider the contiguity of levels of expertness.

## **2. Paucity: A Lack of Specific Documented Knowledge in Relation to the Process of Text Typeface design**

Early works relating to the subject of devising types and accounting for the crafts and trade of punch cutting and type founding include Joseph Moxon's (1958) *Mechanick Exercises on the Whole Art of Printing (1683-1684)* and Pierre S. Fournier's (1930) *Fournier on Typefounding: The Text of the Manuel Typographique (1764-1766)*. Of these early activities and professions, the punch cutting of letters was regarded as one of the more, if not the most, highly skilled crafts (De Vinne, 1900, p. 11) in which an exacting or expert skill was required. Punch cutters worked in minute detail to engrave and counterpunch the ends of steel bars in order to make reversed letterforms that, when struck into a softer metal such as copper, could be used as a matrix (Southall, 2005, pp. 3-4). This matrix would then be incorporated into a mould in order that a single lead type might be cast from it, one at a time (Moxon, 1958, pp. 134-184). The process of punch cutting and casting the moulds had to be repeated for every individual letter or character needed to create a font of type, each related by the characteristics commonly recognized as being distinctive to any given particular typeface or design.

The divisions of labour between various stages in the process and manufacture of types meant that the "design" of letters, the cutting of punches, and the casting of types could be conducted by different workers. The punch cutter was required to "interpret" type designs for hand punch cutting. There was no method to reduce the design of "model" letters to appear at text size on the ends of the small steel bar from which punches could be made (Southall, 2005, p. 16). Prior to this, designs could only be used as a guide by the punch cutter.

By the end of the nineteenth century, the move towards industrial mechanization meant the cutting of punches by hand was supplanted by mechanized methods of production (De Vinne, 1900, pp. 348-350). This move towards industrialization brought a clearer separation in the division of the designing and making of type (Southall, 2005, p. 19). Drawings relating to the designing of types from this point become less of a guide than was the case of model letters for the earlier punch cutters where interpretation of form was from eye to hand; drawn letters become the pattern or specification of the final letter designs for types—designs that could be traced and cut via mechanical reproduction.

As technologies changed over time, the manufacture and use of metal type gave way to phototypesetting technologies. The designing of types became closer to that which appeared as the final form or image of type, as the translation to physical metal letterforms was eliminated from the process. Within the last few decades, digital type has taken place as the common form of reproducing typographic matter, either for print and modern on-screen renderings. Again, in terms of technology, the removal of the image of the letter as photographic film from the process of production means that designers today are working with forms of letters directly within the digital medium in which they deliver as final products (i.e., digital type).

To date, accounts of processes involved in the designing of typefaces have rarely been published. One of the pioneers is Karen Cheng's (2005) book *Designing Type*, that "explains, in

detail, how to design characters into a set of unified yet diversified forms” (p. 7). Whereas useful information about the grouping of some related letter shapes in terms of form and a delivery towards the sequence of designing letterforms for typeface design is found in Cheng’s book, it is questionable whether this brings insight into the process of designing typefaces. The book’s core themes arise from a comparative analysis of existing typeface glyphs with some commentary towards a methodological approach.

There is a lack of published research on the process of typeface design. Published work that offers some insight into aspects of the processes involved appear in some single-authored books (e.g., Gill, 1931; Van Krimpen, 1957) or as features within trade journals (e.g., *U&lc: Upper and Lower Case Magazine* and *Typografische Monatsblätter*, the latter tended to coincide with the release or publication of given typefaces/fonts from type foundries, often acting as a promotional vehicle). None of these works deal directly with establishing and describing a range of contemporary design processes relating to text types. They often offer historical or retrospective views, describing specific details relating to type design or the design of the types themselves.

### 3. Examples of Type Founding as a Restricted Practice

Historically, type founding in the UK suffered restrictive measures placed upon it by the state. Regulated by the Stationers’ Company London and the law courts, and based upon the 1586 decree, the Star Chamber Decree of 1637 detailed the restricted number of type founders in England to four, each of which could employ only two apprentices (Reed, 1952, p. 120). The Decree of 1637 was a measure that restricted not only activities of printing and type founding, but also knowledge that would have accompanied such activities. In other words, type founders could not or would not be able to freely communicate their procedural knowledge of letter cutting or punch cutting with a view to making types. In addition, with the limited number of type founders, they tended to purposefully conceal their methods of practice (Reed, 1952, p. 311).

Talbot Baines Reed’s (1952) anecdotal account of the secrecy of punch cutting from the mid-1700s is concerned with Joseph Jackson, an apprentice to William Caslon I. Caslon’s punch cutting was carried out in secret at the Chiswell Street Foundry. Caslon and his son would lock themselves in a separate room whilst working. Apparently, so much was Jackson’s desire to learn about the process that he bored a hole in the wainscot to observe his master at work. From his observations, Jackson was able to apply himself to the practice in his own time, and on the completion of creating a single punch, presented this to his master in the hope to find praise and reward. Caslon’s response was the dispensation of a hard blow to the apprentice, threatening Jackson that he would be sent to “Bridewell,” at the time a court and a prison, if he would make a similar attempt (Reed, 1952, p. 311).

From the aforementioned account, it can be argued that meaningful patterns in relation to a punch cutting process did or could exist, and that these patterns of process could be observed, taught, and communicated. However, this is not to say that mastery of the subject would be expedited in such a manner. This argument can be reinforced by the comments made by Davis and Carter in their later edited full version of Moxon’s *Mechanick Exercises on the Whole Art of Printing* in 1958. Davis and Carter give notes on the known imparting of knowledge relating to punch cutting (pp. 375-376). This does not make clear how such knowledge would be passed on, only that it existed.

### 4. Etic and Emic Accounts in Relation to Type Design Processes

Anthropologist-linguist Kenneth L. Pike (1967) coins the words *etic* and *emic* from the words *phonetic* and *phonemic*. According to Pike (1967), “[t]he etic viewpoint studies behavior as from outside a particular system” while “[t]he emic viewpoint results from studying behavior as from inside the system” (p. 37). He also relates etic and emic with partial versus total data: “Etic

data are obtainable early in analysis with partial information. In principle, and on the contrary, emic criteria require a knowledge of the total system to which they are relative and from which they ultimately draw their significance” (p. 39). Emic and etic therefore can be interpreted as insider and outsider perspectives. It can be argued then that an expert in any given field innately has an insider perspective in their subject. Conversely, the non-expert, who lacks the depth of skill and knowledge of the expert, will have an outsider perspective in the subject.

It is useful to consider Pike’s view of the etic and emic in connection with the literature on type design. The existing accounts either come from the inside—the type designer’s expert view, or from the outside—the observer’s non-expert view. It is worth noting that a tension here is similar to that in the areas of social science and anthropological research: “For what the social scientist realizes is that while the outsider simply does not know the meanings or the patterns, the insider is so immersed that he may be oblivious to the fact that patterns exist” (Wax, 1971, p. 3). It is the social scientist’s task to work between such etic and emic viewpoints in order to communicate and illuminate what has been learned. Patton (2002) comments:

Experiencing the setting or program as an insider accentuates the participant part of participant observation. At the same time, the inquirer remains aware of being an outsider. The challenge is to combine participation and observation so as to become capable of understanding the setting as an insider while describing it to and for the outsider. (p. 268)

This may highlight some ways towards an understanding of the reasoning for why there is such paucity thus far in describing the typeface design process. The immersed insider could be considered too close to specific details and problems in relation to the activity to see clear ways of making meaningful generalizations of the process of type design. It is not just what is done (i.e., procedure) that needs to be explained, but how and why in relation to other examples of design processes. Although typeface design is a complex and often lengthy practice, it can be difficult for graphic designers and typographers who work closely with type to appreciate such “meanings” and “patterns” as eluded to by Wax and Patton.

Type design, although a specialist activity in its own right, can also be perceived as a discipline within disciplines—an activity that serves the broader specialisms of typography, graphic design, communication design, media, and new communication technologies. To an outsider, there is perhaps a certain sense of invisibility that such specialisms as typography and type design exist.

This argument can be illustrated by a criticism made by the Dutch writing master and type designer Gerrit Noordzij with regard to Daniel Berkerly Updike’s (1922) *Printing Types: Their History, Form, and use; A study in survivals*, which is considered an authoritative history of type designs. Noordzij (2000) states:

The judgement of Updike is amazing and perhaps, if you would happen to enjoy a very special sense of humor, even amusing, but everywhere it demonstrates painfully the absence of the most elementary understanding of type design and its history. (p. 63)

Noordzij makes this statement from the perspective of having a life and career immersed in the creation of letterform, type design, and teaching, thus having expert knowledge, although his own typefaces are not widely published.

It can be argued here that Noordzij’s knowledge of type design from the perspective of a type designer puts him at odds with Updike’s view of type design as a type historian and printer. Although appearing closely related in terms of subject and discipline, the worldviews of this particular type designer and historian differ. Noordzij’s insider perspective does not align with Updike’s outsider one in the subject of type design.

#### 4.1 Further Considerations of Etic and Emic

William James (1950) identifies two kinds of knowledge: “knowledge of acquaintance” and “knowledge about” (p. 221). He also offers what may be described as the conceptual *particular*—the relationship between a core “topic” and a “fringe of unarticulated affinities” (James, 1950, p. 259). This implies that if we are positioned within the fringe we may have “acquaintance” with type design practice. However, this does not necessarily equate to having knowledge “about” designing type practice.

Joseph Moxon, the first English writer on type founding, can be taken to exemplify the problem of categorizing with definitive or exact labels such as *expert* or *connoisseur*. At what point is an expert an expert? Although Moxon produced type, he was not considered a type designer per se. Reed (1952) comments on Moxon’s first type specimen of 1669:

In all respects it is a sorry performance. Only two fonts, the Great Canon and the Pica, have any pretensions to elegance or regularity. The others are so clumsily cut, so badly cast, and so wretchedly printed, as here and there to be almost indecipherable. (p. 171)

There is clear evidence that Moxon designed and made type; however, the evidence reveals that he was far from what we would consider a proficient or accomplished type designer. Even if Moxon was not a virtuoso of the craft itself, what he produced and attempted required some degree of skill and expertise.

Consideration must also be given to the nature of how we define the territory of type design as a subject domain. Type design in the time of Moxon might not have the same values or attributes as in the present, in terms of technology, production, purpose, and methods of application, alongside the people involved. Yet fundamental or transcendental qualities and commonalities of form, use, and application of type design remain the nature of type design until today.

The example of Moxon illustrates that the label *type designer* is perhaps not as easily fixed as we might first imagine. Was Moxon a type designer? The answer would be yes, because he designed type. Do we consider him a type designer? The answer is perhaps less straightforward, depending on the viewpoint from which we see or consider it—it depends on who asks the question, for what reasons, and in relation to what kind of context. As far as Moxon is concerned, he may not be considered a typeface designer per se. It is even less likely that he would be considered an expert in type design, on the basis of the knowledge, skill, and ability evidenced in the artifice he created. His own designs displayed a distinct lack of skill. The same argument may also extend to the notion of *connoisseur*, or onlooker/outsider. How intimately can one know or know of something and have a highly developed sense or ability to appreciate something in order to be conferred the label *connoisseur*?

With respect to the study and understanding of design knowledge and activity, Nigel Cross (2003) highlights the lack of research involving exceptional or outstanding designers in terms of their expertise:

In order to understand expertise in design, we must study expert designers. In some instances, it will be necessary to study outstanding, or exceptionally good designers. This is analogous to studying chess masters, rather than chess novices, in order to gain insight of the cognitive strategies and the nature of expertise in chess playing . . . (p. 85).

According to Cross, richer understandings of the subject can be gained by examining actions of the expert practitioners from within a given subject. Bryan Lawson (1997) supports this view of knowing how designers think:

It seems reasonable to suppose that our best designers are more likely to spend their time designing than writing. If this is true then it would be much more interesting to know how very good designers actually work . . . (p. 40)

Cross's and Lawson's statements illuminate a clear standpoint. However, identifying who the best designers are, or how good or expert a designer is, may not be so straightforward and is open to interpretation. As in Moxon's case above, how much of a typeface designer do we consider Moxon?

Pinpointing positions such as expert, connoisseur, novice, emic, and etic forces us to categorize people, situations, events, and phenomena in an either-or fashion. Such categorization may suffice in some instances, but not always.

Where does our own position of connectedness within a subject come from when we are framing or constructing such views of the world? From the perspective that views of the world are systemic and require systemic thinking, Nelson and Stolterman (2012) argue that "[s]ystemic thinking is both a way of observing the world and a way of being in the world, depending on whether your intention is to describe and explain it or to take action in it" (p. 61). Systemic thinking allows us to reconsider or "dissolve the contextual frameworks that give rise to the conflicting images" (p. 63) that we create, resulting in divisions between categorizations. In this worldview, the transitive nature of epistemology (e.g., knowledge, expertness) and ontology (e.g., expert, mediated expertness embodied within artefacts) of emic/etic, expert/connoisseur, and insider/outsider are highlighted as interrelated and interdependent. Knowing what to look for or what to describe may then be argued as inextricably linked to knowing what to do or how to do something, especially if attempting to connect the inner to the outer world.

## 5. Epistemological and Ontological Proximity

Dreyfus and Dreyfus (1986) identify five steps of skill acquisition: (a) novice, (b) advanced beginner, (c) competence, (d) proficiency, and (e) expertise (pp. 16-51). The novice may recognize elements of situations clearly and objectively but may not connect such elements to an overall situation in which they occur, whereas the expert thinks, decides, and performs intuitively (Dreyfus & Dreyfus, 1986, p. 21). "An expert's skill has become so much part of him that he need be no more aware of it than he is of his own body" (Dreyfus & Dreyfus, 1986, p. 30). A view of the expert as intuitive, as having knowledge that is embodied in being expert, illuminates that knowledge and being are simultaneously connected.

Dreyfus and Dreyfus's view on expertise is useful if we know of the expert or are able to witness performances of expertise in action as an aid to identifying expertness. Moreover, their distinction between "knowing how" something works or operates and merely "knowing that" something works may help to determine the behaviour of experts and novices (Dreyfus & Dreyfus, 1986, p. 19).

If we are able to identify such phenomena, how should we locate the expertness of those giving accounts of typeface design from a historical perspective? For example, if we consider William James's view of the "topic" and the "fringe" (James, 1950, p. 259) as a model to position type design at an epicentre within the wider context of type production or typography, how close to this centre can we position the written accounts of type design? Where would we place those people giving such accounts in relation to a scheme that may prove valuable or useful for assisting or framing elements of an enquiry?

In terms of conceptual framing or understanding what type design is as a subject, type designers themselves would contribute to such framing of a subject domain. It would therefore be plausible to argue that type designers with the greatest skill and knowledge would reside safe within the centre of such a concept of the subject domain. It can therefore be asserted that type designers with comprehensive knowledge and experience would be regarded as being experts in the subject. However, the notion of expert also requires us to be in agreement that experts perform or produce in a right, positive, or efficacious way to a greater degree. But to what degree? How expert is the expert? The identification of expert or expertness may require us to capitulate on our binary labels and accept that the identification of expertness may be complex

or result in viewpoints that sit between the James's (1950) "topic" and "fringe" (p. 259). Such identification depends on not only our ability to identify it and identify with it, but also what we will do with it once identified. How then can we be sure that we have identified expertness?

## 6. Vicinage

The author proposes the concept of *vicinage* or relational neighbourhood to conceptualize the contiguity between notions of levels of expertness or connoisseurship. The concept suggests thinking towards these notions not as absolute, but relative or flexible.

Returning to the Jamesian model of "topic" and "fringe," we can conceptualize vicinage in relation to expertise as a locus nearing the centre of a given domain with respect to increasing skill, knowledge, and expertise for the discipline belonging to the individuals that make up that subject, either through their skill, knowledge, or invention. The concept of vicinage therefore allows us to place experts as instances that not only are in relation to the "topic" and "fringe" of a subject, but also in themselves help to create such a centre and domain. Expertness then may be in the form described as the "knowing how" (Dreyfus & Dreyfus, 1986, p. 17) of the practitioner, the experienced expert type designer. Our view or perception of a subject is also created by description and explanation or "knowing that" (p. 17) of the connoisseur. A connoisseur may also have an expert ability to identify, interpret, appreciate, and articulate a subject, yet not have the experiential knowledge and ability required to complete an undertaking, in this case designing type, successfully.

The concept of vicinage therefore allows us to position the expert and connoisseur in neighbourliness and vicinity to each other and also towards the centre or fringe of our discrete subject conceptualization, thus helping to build our view of that subject domain. It allows us to consider the insider and outsider, emic and etic, as well as degrees of expertness, but acknowledges that each perspective can have its relative worth or value in helping to conceptualize our view of the subject domain.

For example, we could adopt a numerical value system as in the model offered by Dreyfus and Dreyfus (1986) to classify novice to expert. Such a model may vary from "somewhat expert" to "undoubtedly expert," where "expert" would reside comfortably within such a scheme. This may help to determine different kinds of qualities of expertness we identify, compare, and describe. We may need to consider comparing expert practitioners with expert theorists in order to seek the contribution they make towards a given subject domain, where the existence and input from both kinds of people and activities are equally important to defining what we are studying and who or what defines discrete subject disciplines. A vicinage model would allow us to reason and argue for why we might consider someone as being expert and to what degree, in relation to the evidence and view we may have at the time we conduct a study. This could allow us to consider and articulate beyond the *is/is not* type labels we tend to readily adopt.

## 7. Conclusion

This article has examined issues of defining expertise in relation to text typeface design. It has identified that accounts of practice in the area of text typeface design may be affected by the perceived position from which such accounts are written with respect to expert and non-expert perspectives. Generally, the identification and definition of expert still remains somewhat problematic however. This is not only the case for text typeface design, but such identification may prove problematic in other areas also. In relation to research the identification of expert, this is perhaps particularly problematic for PhD students, where scrutiny is applied heavily, by supervisors and examiners, on such details or particulars. Identifying such details relating to expertness, it could be argued, require a certain level of connoisseurship.

In order to consider levels of expertness, the author has developed a concept of vicinage that allows some flexibility to the otherwise rigid notion of an absolute expert. Expertness may also be found in an expert ability to describe and appreciate. A vicinage model may lead us to

consider a relational view of conceptualizing what constitutes knowledge in a discrete subject domain, rather than conceptualizing a binary view. The article has offered an example of vicinage in relation to classifying expertise in a numerically graded model. The concept of vicinage is one of relational neighbourhood that allows for definitions of problematic concepts, such as *expert*, by rationalizing the concept against a framework of considerations.

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