Categorization Research and the Concept of Art
An Empirical and Psychological Approach

MICHAEL RANTA

During the last few decades, the view that any attempt to define art by referring to necessary and sufficient conditions must fail has gained relatively wide acceptance in academic circles theorizing about the arts. Influenced by Ludwig Wittgenstein's notion of family resemblance, it has been argued that objects falling under the concept of art do not necessarily have to share any essential characteristics; rather, art should be thought of as a class of objects with various networks of similar properties. If essentialist views on art put forward before the twentieth century must be regarded as untenable, the development of contemporary art has made such views even more problematic. Since the turn of the last century, numerous instances of the category “art” have been produced which clearly seem to overlap with other categories.

Within cognitive psychology, considerable attention has been given to the capacity of humans and other organisms to categorize objects and events. Numerous studies, beginning with the pioneer work by Eleanor Rosch and her associates, seem to have given empirical confirmation that categories generally speaking have a graded structure, i.e. categories form around best or prototypical category members from which other members successively deviate. In this paper I intend to show how these studies may have a bearing on understanding the nature of the category “art”, not least by taking contemporary art into consideration.

1. This article is a revised version of a paper presented at a conference arranged by Nordiska sällskapet för estetik and Deutsche Gesellschaft für Ästhetik in Berlin, 12–15 October 2000.
Is it possible to define “art”, and if so, which criteria should we refer to in order to accomplish that task? Traditional attempts to find a definition of art have consisted of finding necessary and jointly sufficient conditions for something to be a member of that category. Candidates in that respect have been, for instance, the notions of imitation or expression. However, the idea that imitation should be such a condition faces, not surprisingly, numerous serious problems. First of all, imitation is quite a troublesome and vague notion. We may think of imitative representation as the depiction of particular objects, subjects, actions, or states of affairs (i.e. as a straightforward copy theory). Moreover, imitation might also be conceived as the rendering of universals, abstractions, essences, or types, and imitation theories may also describe – or prescribe – imitative representation as rendering certain idealizations (e.g. in terms of morality or beauty). Numerous contemporary textbooks and articles in aesthetics tend unfortunately to focus on the first version, usually in order to show its inadequacy as an all-embracing theory of art. The emphasis placed on this theory is, though, to some extent historically quite misleading. Indeed, it is doubtful whether any philosopher has in fact proposed such a view. Furthermore, we have innumerable examples in the history of art where not the exact and literal imitation of reality seems to have been intended. Quite apart from these objections, we may also note that there are works of art (e.g. abstract paintings or ready-mades) that are not imitations at all, while there are imitations (such as passport photographs) that are not works of art.

Similar objections would also apply to the notion of expression. First, expression could refer to (i) emotional properties inherent in a work of art (such as gaiety, melancholy, aggressiveness, or serenity); (ii) emotional states attributed to the artist (e.g. at the moment of creation, or his usual state of mind); and (iii) emotional states arising (non-contingently) in the mind of the beholder. Second, also in this case numerous counter-examples could be mentioned according to which works of art have no expressive properties at all, or where the manifestation or evocation of emotional states are not artworks (such as a smile or tickling someone).

Faced with these difficulties, a number of scholars have come to suggest that attempts to find distinctive functional or institutional – rather than straightforwardly perceptually based – constituents of art might be more promising.  

3. For a short historical overview concerning the last two views, see Michael Ranta, *Mimesis as the Representation of Types: The Historical and Psychological Basis of an Aesthetic Idea* (Stockholm: Stockholm University, 2000), 47–86.

cording to, for example, Monroe C. Beardsley, a work of art is an object that belongs to a certain function-class and is dispositionally efficient for fulfilling a certain desirable aesthetic function (which here is supposed to be the capacity to provide aesthetic experiences or aesthetic enjoyment). However, it may very well be doubted whether a distinct aesthetic quality (having context-free, ahistoric, and cross-cultural stability) can be attributed to certain experiences or states of enjoyment (which has been pointed out by a number of philosophers).

George Dickie’s view may be mentioned as an example of an institutional or procedural definition of art according to which an object is conferred the status of candidate for appreciation as a work of art by representatives of the so-called “art world”. Apart from the charge of circularity brought against this definition (the crucial notions “art world” and “art” seem to be logically and semantically interdependent), it has also been regarded as a deficiency that no criteria, no account of what features art world members rely on when conferring the status of being “art” on something have been presented (which seems to make such decisions quite arbitrary).

All these attempts, then, to define “art” in essentialist terms by referring to distinctive, common and all-embracing perceptual, functional or procedural factors which members of this category are supposed to possess are obviously more or less unconvincing. Moreover, if we consider some twentieth-century movements in art (such as Dada, conceptual art, minimalism, ready-mades, happenings, Land art, and so forth), it seems that the proposals outlined earlier have become even more problematic. Duchamp’s ready-mades or Andy Warhol’s Brillo Box are by no means solitary exceptions which radically deviate from the last century’s development of art in the Western Hemisphere. Within contemporary aesthetics, the elusiveness of the concept of art is far too often stressed by focusing upon such single works, which of course seems to be historically quite narrow-minded.

Let me illustrate this further by adding some additional examples. In 1966 John Latham and a colleague organized the so-called Still and Chew event, which con-


sisted of borrowing Clement Greenberg's book "Art and Culture" from the library of the university where Latham worked as a teacher. Afterwards guests invited to his house had to chew selected or random pages of this book, other pages were processed chemically, and the combined solution was fermented with yeast. A year later the library asked Latham to return the book whereupon he distilled and bottled the liquid and tried to persuade the librarian to accept the bottle as the book he had borrowed. The next day he was discharged from the university, but the bottle, its contents plus documentation belong now to the collection of the Museum of Modern Art in New York. 9 We might also mention the work by Ken Friedman, "The distance from this sentence to your eyes is my sculpture." This sculpture raises of course interesting questions concerning the identity of the artwork as well as of the artist. Moreover, it also challenges attempts (by, for example, Dickie, among others) to include artifactuality as a necessary condition for something to be a work of art. 10 In 1993 Swedish artist Dan Wolgers participated at an exhibition in Stockholm during which he made use of two benches owned by the museum where the exhibition took place. Afterwards he took the benches and brought them to an auctioneer's office where they were sold. The museum made a report to the police as they thought that the benches had been stolen. Later on the benches and the new owner were located, the museum bought them back and showed them in an exhibition with an explanatory text. However, two private persons – though, interestingly, not the museum – reported Wolgers to the police, and a court imposed a fine of about 240 USD (for fraud). After having received the judicial decision, Wolgers sold it (in the original, unopened envelope) for about 2000 USD.

Numerous further examples, such as Jean Tinguely's auto-destructive machines, Christo's work (e.g. the Wrapped Reichstag in Berlin, 1995), Hans Haacke's political installations, and so on, could be mentioned in order to illustrate how the category "art" has expanded radically, it seems, during the last century. Indeed, we have no reason to assume that this category will not expand even further in the future. Similar lines of thought have been put forward by a number of scholars theorizing about the arts. Weitz, one of the first and most widely cited proponents of an anti-essentialist position concerning the concept of art (others are, e.g.,


10. I found this example in Göran Hermerén, Aspects of Aesthetics (Lund: Gleerup, 1983), 62. For a thorough discussion of the artifactuality condition, see Davies, Definitions of Art, 120-141.
William Kenrick, Haig Khatchadourian, Władysław Tatarkiewicz, Paul Ziff), regards past attempts to define art as evaluative and stipulative rather than descriptive and classificatory. According to Weitz, there is no pervasive property shared by all objects that we are inclined to call art, and, moreover, any attempt to specify such a property would foreclose on future creativity. As he puts it, “the very expansive, adventurous character of art, its ever-present changes and novel creations, makes it logically impossible to ensure any set of defining properties.”

The history of art is a history of a more or less radical creativity that has challenged, altered and departed from pre-existing concepts of art (we may ask, though, whether the very characteristic of alterability wouldn’t qualify as an essential property). Thus, as Weitz suggests, art ought to be thought of as an open concept without necessary and sufficient conditions for its application. Inspired by Wittgenstein’s remarks concerning the nature of games and other open concepts, he claims that the concept of art is comparable to such concepts, thus being like a family whose members resemble each other in some, but not in all or in commonly shared respects. These complicated networks of similarities constituting the class of artworks are, borrowing a Wittgensteinian term, called family resemblance.

Now, this line of reasoning is of course quite familiar to those who are acquainted with contemporary aesthetics, and in particular analytic aesthetics. However, I would like to discuss how this view might be given further (empirical) plausibility and elaborated in more detail, namely by taking research within cognitive psychology and – more specifically – categorization research into account.

Cognitive psychology has, to a considerable extent, investigated the capacity of humans and other living creatures to categorize objects and events. It seems hardly controversial to assume that this capacity is essential for organisms in order to survive and to improve their living conditions. The formation of categories enables us to apply previous experiences to new ones, to make inferences, to make predictions about the future, and they provide efficiency in communication – just to mention a few examples. How categories arise at all (i.e. whether, or to what

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extent, they are the result of environmental features or constructive processes on the part of the categorizer), and how they are represented in consciousness are to be sure important questions. Numerous cognitive psychologists have, following Eleanor Rosch’s initial work, attempted to investigate the nature and acquirement of categories in general, most notably that of taxonomic categories. A major tenet in cognitive psychology is the assumption that the mind should be regarded as a symbol-processing system, and that one important goal is to identify and explain the representations and symbolic processes involved in cognitive activities. A significant characteristic of cognitive psychology, which clearly distinguishes it from traditional behaviourism, is thus the supposition that intelligent organisms are capable of constructing and manipulating mental representations.

Such mental representations may provide us with information that enables us to distinguish members of a category from non-members. A number of cognitive psychologists have proposed that perception and cognitive activities are hierarchically structured. New information is compared with and assimilated into broader schemata or categories that are necessary for object recognition, explanations, predictions, and communicative activities. In other words, humans seem to be able to store mental representations that have something like a *type-character*. These representations are thus some kind of abstraction stored in long-term memory with which external objects are compared. Common taxonomic categories are acquired after encountering several particular instances of the category in question, after which relevant characteristics are extracted and integrated into category knowledge.

Rosch developed a number of experimental procedures in her research on categorization. In most of these experiments various groups of subjects, usually students of psychology, encountered different kinds of stimuli, such as words (nouns), sentences, outline drawings, or photographs. In other cases subjects had to “produce” examples of category members. Some, though not all, of the methodological strategies used in her (as well as other researchers’) investigations were designed as follows:13

1. **Direct rating**: Subjects have to rate the typicality of an item (referred to by a word or a picture), or how good an example of a category it is. In early studies

on categorization carried out by Rosch subjects were asked to rate the typicality of category members (on a 1 to 7 scale, where 1 is very typical and 7 very atypical). It turned out that the subjects quite consistently considered some members to be more typical than others. In the category bird, for example, a robin is judged to be very typical (with an average rating of 1.1), while a chicken (3.8) is not.¹⁴

2. Reaction time: Subjects have to press a button to indicate the experienced truth-value of statements (such as “An apple is a fruit”). Clear-cut and typical examples lead to shorter reaction times.

3. Production of examples: Subjects have to list or draw category members, which often prove to be members considered to be more typical.

The results obtained from these experiments support, according to Rosch, the assumption that categories, psychologically speaking, usually do not have clear-cut boundaries, but rather possess a graded structure.¹⁵ This means that there are certain category members that are experienced as cognitive reference points (or the clearest cases of category membership), while other members gradually deviate from them, although they still belong to the category in question. In other words, categories are formed around their most representative instances, which have something like a prototypical character. Moreover, Wittgenstein’s notion of family resemblance may be treated as a general psychological principle of category formation: “[M]embers of a category come to be viewed as prototypical of the category as a whole in proportion to the extent to which they bear a family resemblance to (have attributes which overlap those of) other members of the category. Conversely, items viewed as most prototypical of one category will be those

¹⁴ Other examples are: (i) category sports: football (1.2), weightlifting (4.7); (ii) category crime: murder (1.0), vagrancy (5.3); (iii) category vegetables: carrot (1.1), parsley (3.8). Cf. also John R. Anderson, Cognitive Psychology and Its Implications (New York: W. H. Freeman, 1995), 157 f.

¹⁵ It should be pointed out, though, that there may be categories that actually reflect an all-or-none rule, that is, some entities belong, formally speaking, to the category in question in strict essentialist terms, while others do not. For example, the category odd number includes any number whatsoever that will not result in a whole number when divided by 2. All category members satisfy the rule equally. Still, despite the existence of exact formal criteria for category membership, it may be claimed that such a category has a graded structure, psychologically and cognitively speaking, due to the efficiency with which people establish membership of certain numbers, or due to the fact that they regard some numbers as more typical than others (say, 3 compared to 1057). Cf. Lawrence Barsalou, “Deriving Categories to Achieve Goals”, 8, in Gordon H. Bower, ed., The Psychology of Learning and Motivation, Advances in Research and Theory 27 (San Diego: Academic Press, 1991), 1–64.
with least family resemblance to or membership in other categories. This hypothesis seems to have been empirically confirmed by various experiments where, for example, subjects were asked to list attributes for members that previously had been rated as very typical for the category in question. It was shown that the items with most attributes in common – which had to be specified by the subjects – and which had the least overlap with other categories were also considered to be the most representative category members. Likewise, studies with children have shown comparable results.

In all these cases the underlying assumption is obviously that there exists some kind of (experienced) similarity relation, based on family resemblance, between category members and prototypes, or matches to a standard. The more attributes an item shares with other members in a category, and the fewer attributes it shares with members of contrast categories, the higher is its degree of family resemblance and thus typicality supposed to be. Cognitive psychologists have, however, also been interested in other possible determinants of typicality. For example, it has been suggested that familiarity and frequency of exposure to an item determine typicality. While familiarity may be defined as someone’s perceived knowledge of an item, frequency of exposure or instantiation may be defined as someone’s subjective estimate of how often an item has been experienced, either as a member of a specific category or across all contexts in which it might occur. An apple, for instance, may be regarded as an often-experienced object in general, but as an unusual instance of a pizza topping. Moreover, with regard to object or pattern recognition – another important field of research within cognitive psychology – there are at least two possible suggestions as to how the employed prototypes, or perhaps rather mental representations of prototypes, emerge. First, according to the central-tendency model, prototypes are conceptualised as representing the mean or average of features possessed by a set of objects. Second, the attribute-frequency model suggests that a prototype incorporates the most frequently experienced features occurring in a series of objects.

Now, in which way may categorization research as outlined here have some bearing on understanding the concept of “art”? Unfortunately, no empirical re-

17. Ibid.
search has been done, at least not to my knowledge, in order to account for the structure of this category. However, there is one study concerned with the category “painting” (which may be regarded as a subcategory of “art”) worth mentioning in this context. According to a series of experiments, people tend to estimate figurative and realistic paintings as more typical for this category than abstract ones, that is, a high degree of realism is correlated with typicality judgments. We may ask, then, which members of the category “art” would qualify as best or prototypical examples, as cognitive reference points. Generally speaking, this depends on the prevailing socio-historical circumstances (as probably is the case with numerous further or even most category structures). Impressionist paintings, for example, were judged to be highly atypical in the 1870s and 1880s and for some beholders hardly categorizable as art at all. They seemed to have no drawing, no composition, no convincing space or serious subject matter. Nowadays Impressionist works are highly admired and seem to belong to the core of the category “art”. Indeed, as we might assume, this category (or strictly speaking the category “the visual arts”) could probably be conceived as centering around exemplary members such as figurative landscape paintings, Greek sculpture, Michelangelo’s frescoes, Picasso’s cubist paintings, and so on. From these best examples other category members are more or less deviating, such as those relatively atypical works mentioned earlier.

As a matter of fact, Morris Weitz himself made some suggestions on these lines. According to Weitz, “what is at stake is no factual analysis concerning necessary and sufficient properties but a decision as to whether the work under examination is similar in certain respects to other works, already called... [works of art]” and “whether we decide [...] to extend [the category “art”] to cover this case.”

Paul Ziff, to mention another early proponent of such a view, suggested a definition of art “in terms of various subsets of a set of characteristics, or [...] in terms of similarity to [...] a characteristic case... In virtue of its similarities to the characteristic case, [an] object can be said to be a work of art.” We must ask, though, what kind of similarity relations should be taken into consideration here.

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In many cases, quite obviously, we may think of straightforward perceptual properties. A hitherto unknown landscape painting becomes thus classified as an artwork due to its visual resemblance to other landscape paintings previously categorized as art. In other cases, it might seem more reasonable to conceive of the relevant similarity relations in functional or even institutional terms. All the definitions of art outlined earlier seem to point to those aspects that disjunctively or conjunctively participate in establishing the category “art”. Indeed, these definitions are not unreasonable at all (although they do not provide necessary and sufficient conditions), but hint at some characteristics that are frequently associated with the core of the concept of art. Thus imitation and expression (in all the senses indicated), functional efficiency with regard to states of enjoyment, institutional sanctions, and so on are factors which contribute to the demarcation – as well as (together with other characteristics) to the extension – of this category.

Now, it may be argued that this line of reasoning necessitates the existence of prior-established, prototypical works of art in order to clarify the nature of the category “art” as a whole. Thus it seems that we somehow are presupposing what we are trying to explain, and, moreover, that we will end up in an infinite regress into the past. How did the (historically) very first works of art come into being? Well, how did the very first members of categories such as furniture or fruit come into being? Genealogically speaking, we might assume that at earlier stages of human development quite broad and more-inclusive categories have existed from which increasingly specialized subcategories have emerged. For example, broad categories such as edible objects may subsequently have been differentiated as fruit, vegetables, or meat. A category such as the Greek notion technē (which perhaps could be translated as “organized knowledge and procedure applied for the purpose of producing a specific preconceived result”) could then be conceived of as having evolved into specialized categories such as science, handicraft – and art.23

Numerous studies within cognitive psychology indicate that category formation in general, whether we think of categories such as furniture, fruit, birds, animals, and so on, may be explained as outlined earlier.24 From a psychological point of view, then, taxonomic categories are established after encountering several in-


stances of a category, or of a preliminary category, after which characteristics experienced as relevant (or prototypical examples) are extracted and incorporated into category knowledge. It should further be emphasized that these psychological studies are empirically based, making use of sophisticated and rigorous experimental and statistical methods, thus giving the hypotheses put forward, as I believe, additional strength compared to purely philosophical and rather speculative reflections.\textsuperscript{25}

Is there any reason to suppose that category acquisition concerning \textit{art} is completely dissimilar from the establishment of categories in other cases? Take, for instance, the argument of alterability used in order to stress the peculiar nature of art. Quite obviously, also other categories have been extended or are extendible and have rather odd category members. Think, for example, of the category \textit{fruit} and members such as \textit{kiwi} or \textit{mango}, which nowadays are regarded as less typical examples compared to \textit{apple} or \textit{pear}, but which fifty years ago hardly would have been recognized or categorized as \textit{fruit} at all, at least not in Europe. We may also think of numerous further categories, e.g. \textit{vehicle} or \textit{furniture}, which during the last century have been extended by members such as \textit{car} and \textit{motorized wheelchair} or \textit{refrigerator} and \textit{computer table} respectively. In this respect, then, the category “art” – having seemingly indeterminable and elusive properties – is not fundamentally different from many other categories. Still, many aestheticians seem to believe that there is something extraordinarily peculiar about this category. According to Ziff, for example,

\begin{quote}
\begin{itemize}
\item it is in fact possible to dispute whether any particular painting is a work of art or not [...] in a way that it is not in fact possible to dispute whether any particular object is a table or not [...] and [...] there are and can be no clear-cut cases of works of art in quite the same sense as there can be such clear-cut cases of tables, chairs, and so forth.\textsuperscript{26}
\end{itemize}
\end{quote}

This view, I believe, conflates different category levels, namely (as cognitive psychologists have put it) \textit{basic level} and \textit{superordinate} categories. While the former often seem to have similarly perceived overall shapes, are most quickly identified as belonging to a certain category, and are the first categories named and learned

\textsuperscript{25} For a fuller account and discussion of empirical studies in general, and cognitive psychology in particular, and their relevance to aesthetics, see Ranta, \textit{Mimesis as the Representation of Types}, 86-113, 175-256.

\textsuperscript{26} Ziff, “The Task of Defining a Work of Art”, 59.
by children (just to mention some characteristics), the latter are more all-inclusive and have relatively few cognitively salient attributes in common. Thus notions such as chair, table, and painting could be regarded as basic level categories, while furniture and art would qualify as superordinates. It may very well be disputed if certain objects are works of art, but this also holds for potential works of furniture. On the other hand, it is hardly more disputable, I think, to categorize an object as a painting as it is to classify something as a chair.

One reason put forward by Ziff why the notion “work of art” is supposed to be especially controversial has to do with its potential uses in an evaluative and laudatory sense. Hitherto, I have only been concerned with the concept of art from a classificatory point of view. However, to ascribe an object the status of being “art” – or to refuse to do so – is certainly not always intended as (just) an act of classification. Calling something “art” can sometimes be understood as an evaluation according to which the object in question has certain good-making features. A negation, such as “This is not art”, may thus, in some contexts, mean something like “This is an inferior work of art – though it still is a work of art, seen from a classificatory point of view”. In this context, one interesting proposal made by, for instance, the cognitive psychologist Lawrence Barsalou deserves mention. According to Barsalou, people frequently employ and construct so-called goal-derived categories, where typicality, or a graded structure, is related to the value (or efficiency) for fulfilling a certain goal. Items in these categories, such as things to take from one’s home during a fire, or foods to eat on a diet, are more or less typical (or central for category membership) depending on their value for accomplishing the goal or ideal in question (in these cases, for example, money for the ideal minimizing loss, and celery for the ideal minimal calories). Goal-derived categories

27. For a more detailed account of various category levels, see e.g. Rosch and Mervis, “Family Resemblances”, 586 f.; Rosch and Lloyd, Cognition and Categorization, 30–34; Rosch, “Categorization”, 518 f.; Lakoff, Women, Fire, and Dangerous Things, 46 f. Apart from these two category levels, cognitive psychologists have also been concerned with more specific and informative subordinate categories (which, in our example, could be e.g. kitchen chair or living-room chair and landscape painting or portrait respectively).


are, at least to some extent, less concerned with how things are (or have been), but rather how they should be, i.e. reasoning about these things’ ideal (or goal-efficient) properties plays a significant role. Also the formation of goal-derived categories has been the subject of several empirical studies. Moreover, as Barsalou claims, it might be reasonable to distinguish between so-called primary and secondary categorizations. While the former is supposed to be someone’s initial categorization (an object is, for example, categorized as a chair), a secondary categorization may occur afterwards, more or less spontaneously, focusing on an object’s efficiency for fulfilling or maintaining desired goals (e.g. a chair may subsequently be categorized as something to stand on to change a light bulb). In a similar way, an object may initially be classified as a work of art or a painting, whereas at a second stage it may be categorized as something being comprehensible and enjoyable. To call something a work of art may thus include both these stages of categorization. Also in this respect, then, there seems to be no fundamental difference between works of art and, say, works of furniture (contrary to Ziff’s claim). As I believe, the proposals as outlined here may very well contribute to clarifying the concept of art understood as an evaluative notion. This assumption deserves, of course, a more thorough discussion, which, however, would fall outside the scope of this paper.