



Order in complexity: How Hans Eysenck brought differential psychology and aesthetics together



Nils Myszkowski^{a,*}, Martin Storme^b, Franck Zenasni^b

^a Department of Psychology, Pace University, New York, NY, USA

^b Laboratoire Adaptations Travail-Individu, Université Paris Descartes – Sorbonne Paris Cité, Paris, France

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ABSTRACT

Although Hans Eysenck's reputation is for the most part related to other works, empirical aesthetics was the topic of his PhD, a field in which he remained interested for a very long time, steering the domain's wheel towards the study of individual differences. In this article, we review his work and impact in the field. We first argue that his works on aesthetics demonstrate his interest for natural sciences and arts, his gestaltist views on art and psychology, as well as the influence of Burt and of his first wife, Margaret Davies, on his work. We then analyze his first factor analytic works on aesthetic preferences, leading to the discovery of the two factors of aesthetic judgment – 'T' (for taste) and 'K' (for appreciation of complexity) – and show how, in spite of his impact in other fields, he kept demonstrating concern for the measure and determinants of these two factors. Finally, we discuss the extensions and limitations of Eysenck's contribution to the field of empirical aesthetics, proposing that the 'T–K' duality sowed important seeds for a unified concept of 'Aesthetic Quotient'.

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1. Introduction

Hans Eysenck's name is known for many reasons, and experimental aesthetics research is probably not the first to come to mind. Although Eysenck did his PhD on empirical aesthetics and kept a line of work in this field afterwards, he is largely portrayed as an enemy of psychoanalysis, a defender of behavior therapy, an advocate of the genetic explanations of IQ differences, or a pioneer in the scientific study of personality – for example, his obituary in *Nature* (Gray, 1997), a journal in which Eysenck also published on aesthetics (H. J. Eysenck, 1941b, 1941c), highlighted his research on personality as his most significant impact. What is less known is that Eysenck's first contributions were to the study of the aesthetic experience, and gave empirical aesthetics an individual differences psychology twist – as he did much else is touched (Corr, 2016).

2. Eysenck's projects and interests

2.1. An initial interest for 'hard' sciences

At 19 years of age, in 1935, Eysenck enrolled at University College London (UCL) with the initial intention of studying physics. But administrative circumstances, cultural differences and misunderstandings lead to his enrollment in Psychology, the only "subject on the science

side" – which he had little knowledge of and did not originally consider as a science – that he could take without losing a further year, which he could not afford (Buchanan, 2010). Although Eysenck's fury dissipated, he remained fascinated by physicists – more than by psychologists, explaining that "none of them impressed [him] half as much as did the leading physicists and astronomers" (Eysenck, 1997, p. 47) – and his interest for physics and natural sciences (albeit one as a spectator) surely later influenced his works, not only on intelligence and personality, but also on empirical aesthetics.

A lot of Eysenck's work would describe him as a naturalist, and one of the most notable examples of his fascination for natural sciences can be found in how he investigated with passion the topic of aesthetic sensitivity and aesthetic preferences by likening it to a natural phenomenon. For example, he was very interested in the absence of cross-cultural differences in aesthetics sensitivity and preferences (Chan, Eysenck, & Götz, 1980; Eysenck, Götz, Long, Nias, & Ross, 1984; Eysenck & Iwawaki, 1971, 1975; Eysenck & Souief, 1971; Iwawaki, Eysenck, & Götz, 1979), as well as in the weakness of training or education effects in aesthetic sensitivity (Eysenck & Hawker, 1994; Eysenck et al., 1984; Götz, Borisy, Lynn, & Eysenck, 1979), allowing him to suggest notably that aesthetic sensitivity had "a genetic foundation in the structure of the nervous system" (Götz et al., 1979, p. 801). The influence of Galton and Darwin can be found behind these conclusions that "T" has "a firm genetic basis" (Eysenck & Iwawaki, 1975, p. 11), and Eysenck expressed how he considered that genetic factors were often decried (Eysenck, 1997, p. 64), but this is also – and perhaps more importantly – an application of what Eysenck enunciated as one of his principles: the idea that body and mind are an indivisible continuum,

* Corresponding author.

E-mail address: nmyszkowski@pace.edu (N. Myszkowski).

and that psychologists should not leave biological factors aside (Eysenck, 1997, p. 64).

Additionally, the influence of natural sciences can be found in Eysenck's interest in the improvement of a mathematical formula of aesthetic quality, which was his initial project in the field of aesthetics (Eysenck, 1941d). Moreover, although other factors – notably Burt, Spearman and Galton's influence (Buchanan, 2010) – certainly played a role in it, another illustration of the influence of natural sciences on Eysenck's empirical aesthetics work can be found in his enthusiasm for the development of quantitative research methods in psychology, notably through his application of thorough empirical methodologies when investigating aesthetic preferences and sensitivity.

2.2. An appetite for art

2.2.1. Interests towards aesthetics

Even though Eysenck was captivated by natural sciences, he has been described as having an artistic mind (Corr, 2016). The first illustration of it was his lack of excitement when Burt originally suggested that he work on the re-standardization of the Binet scale (Buchanan, 2010, p. 55); but this part of his personality found expression in empirical aesthetics. Indeed, although his approach of aesthetics was highly empirical and oriented towards the study of individual differences, his works demonstrate an interest for what was probably to him more than ordinary experimental material: art. Although his work in aesthetics encountered the resistance of artists (Eysenck, 1997, p. 72) – provoking, among “normally peaceful artists, philosophers, and aestheticians”, a “pitch of uncontrolled indignation” (Eysenck, 1970b, p. 308) – his attention to art is frequently indicated in his articles, notably in the way he cites aestheticians like Kant, Porena, Fry and Bell in his seminal article on the ‘T’ factor (Eysenck, 1940b).

2.2.2. Building bridges with the Gestalt theory

Eysenck's interest for art is also showed in how he made efforts to build bridges between empirical findings and art theory, notably linking Koffka's Gestalt theory – a both psychological and artistic idea (Gestalt means ‘shape’ in German) according to which the association of elements constitutes something different than the sum of the elements – with the duality of the two principal factors of aesthetic preferences (Eysenck, 1942b).

Certainly, here again, Eysenck's works in aesthetic perception can be seen through the lens of Galton's influence, who many years before had been concerned with the measurement of perceptual abilities (e.g., Galton, 1890) and their assumed relations with intelligence, but undoubtedly Eysenck was also interested in art itself. A first example of such a “not only perceptual” conceptualization of aesthetic preferences is shown in his early interest in the field of poetry (Eysenck, 1940a), although a rather minor topic compared with his proficiency in visual aesthetics. Again, such an interest for the perception of poetry demonstrates Eysenck's gestaltist interest for the organization of units (words), rather for the units themselves.

2.2.3. The aesthetic statement behind the Visual Aesthetic Sensitivity Test

When building the Visual Aesthetic Sensitivity Test (Götz et al., 1979), which we discuss below, Eysenck became a friend of Karl Otto Götz, a West German abstract painter (Eysenck, 1997, p. 72), and built an aesthetic sensitivity measure that is only composed of abstract art (Götz et al., 1979) (Fig. 1). This can, of course, be seen as a way to present stimuli that are supposedly more “purely perceptual” than other measures that reflect only representational art (Meier, 1940, 1963), but it can also be seen as an artistic statement – possibly even a political statement, considering that Eysenck had left Germany because of his opposition to the Nazi party, and that the same party had also banned Götz' paintings and exhibitions.

Indeed, building the Visual Aesthetic Sensitivity Test, Eysenck could have selected already existing works of art, used the basic polygons that



Fig. 1. Items of the Visual Aesthetic Sensitivity Test (Götz et al., 1979).

he had previously used (Eysenck, 1940b, 1941d), or directly applied design principles like the Maitland Graves Design Judgment Test (Graves, 1948, 1951). Instead, he took the unconventional path, and emphasized the artistic value of the Visual Aesthetic Sensitivity Test, explaining that the test overcomes “the major drawback” of other visual aesthetic sensitivity measures that “the stimuli are clearly of low or no artistic interest” (Götz et al., 1979, p. 197).

As we later explain, the Visual Aesthetic Sensitivity Test was especially challenged for only representing one specific type of stimuli, rather than visual art in general (Gear, 1986), so Eysenck clearly paid for this assertive statement of relying solely on Götz' painting style and ability to create the test.

2.2.4. The scientist as a creator

Finally, Eysenck, indeed, just as much as a scientist, was characterized by an artistic and provocative personality (Corr, 2016). His works are those of someone who was passionate about a wide variety of topics, and who enjoyed making his scientific demonstrations have philosophical and cultural impacts, coupling empirical results with his opinions. Indeed, his empirical aesthetic formula as a product of order and complexity has been noted as a pertinent summary of Eysenck's works (Corr, 2016): In the field of aesthetics, Eysenck's efforts went in the direction of demonstrating aesthetic value (and, possibly, value in general) as high sophistication in the respect of rules – an old paradox, which, although theorized before Eysenck, is a widely used and empirically supported definition of creativity (Runco & Jaeger, 2012), to which Eysenck agreed, explaining, for example, that “a psychotic person's responses are original, in the sense of unusual, but they are hardly ever creative; they lack relevance” (Eysenck, 1995, p. 36).

2.3. Eysenck's (main) early influences

2.3.1. Burt

Being his supervisor and directing Eysenck's PhD on aesthetic preferences, Cyril Burt obviously exerted a lot of influence on his young student's thinking and work in this field. Being one of the pioneers of factor analysis (Burt, 1940), he introduced Eysenck to his methods,

which he, then, relied upon to identify the ‘T’ and the ‘K’ factor, summarized below. Burt was also a pioneer in the study of the relationship between personality and aesthetics (Burt, 1933), and was the one to suggest the topic of Eysenck’s thesis (Buchanan, 2010, p. 55), by proposing an empirical reformulation of Birkhoff’s aesthetic value formula (Birkhoff, 1933). However, even though Eysenck was heavily influenced by Burt at the time of his thesis, he emancipated himself from his mentor’s influence short after completing his PhD, and it is interesting to note that, while Eysenck’s works – not only on intelligence (Eysenck, 1939) but also on aesthetics (Eysenck, 1941d, pp. 90–91) – initially attacked Thurstone’s methods, a lot of it was probably due to the heavy influential hand of Burt (Buchanan, 2010, p. 54). Eysenck later acknowledged having met a lot of impressive “leading psychologists” citing – among others, notably Koffka – Spearman and Thurstone (Eysenck, 1997, p. 47), and explained that, in spite of his vigorous review of Thurstone’s monograph on Primary Mental Abilities, he found evidence both for *g* and for primary abilities (Eysenck, 1995).

2.3.2. Margaret Davies

Eysenck met his first wife, Margaret Davies, at UCL and married her in 1938, at the same time he enrolled on his PhD (Buchanan, 2010, p. 52). Davies was also supervised by Burt, and worked on the study of olfactory preferences, using factor analysis (Davies, 1939; M. D. Eysenck, 1944). Davies’ work was, of course, very influential to Eysenck’s own, as she was one of the first to use Burt’s pioneering technique of factor analysis between individuals (Davies, 1939) – as opposed to factor analysis between variables – a technique that was later used by Eysenck in his factor analysis of aesthetic preferences and discovery of ‘T’ and ‘K’ factors (Eysenck, 1940b). Davies’ mathematical proficiency probably helped Eysenck perform his factor analyses (Buchanan, 2010, p. 52), and her influence is displayed in her former husband’s early publications (Eysenck, 1941d, 1941e), and later his works were to influence hers (M. D. Eysenck, 1944).

3. Eysenck’s legacy: individual differences in aesthetic sensitivity

Following Burt’s idea that aesthetic value was a product of order and complexity rather than a ratio or order over complexity – as earlier theorized by the mathematician George Birkhoff (1933) – Eysenck adopted Burt’s method of factor analysis between participants. It is important to note that, before Eysenck, aesthetic preferences were mostly examined with psychoanalytic and “general psychology” experimental perspectives: Fechner’s conception of ‘aesthetics from below’ pioneered empirical aesthetics and influenced many – including Eysenck (Eysenck, 1997, p. 75) – but did not focus on individual differences, and Vygotsky’s *Psychology of Art* (Vygotsky, 1974) explained how perceiving art requires a form of emotional creativity – but did not focus on individual differences in preferences using empirical bases.

3.1. Discovering the ‘T’ and the ‘K’ factors

One of Eysenck’s aims in his quest to understand aesthetic appreciation was to identify a general factor of good taste, later referred to as the ‘T’ factor. His attempt in defining ‘T’ was similar in many ways to the attempt of defining the *g* factor in the contemporary field of intelligence research: an explicit parallel is notably made when Eysenck opposed his factor analysis method – a method “in conformity with most of the leading British factor-analysts” (Eysenck, 1941d, p. 91) that allowed him to discover ‘T’ – and the Thurstonian method earlier employed by Harvard professor, Beebe-Center (Beebe-Center & Pratt, 1937). In 1940, some work had already been conducted by Dewar (1938) under the guidance of Burt (Valentine, 2015, p. 150) on this question (Eysenck, 1940b), which already pointed in the direction of a general factor of taste in the field of visual aesthetics. However, some alternative explanations for the consistency between individuals’ appreciations of

aesthetic value were left unexplored in Dewar’s work and needed to be ruled out.

Eysenck’s first effort (Eysenck, 1940b) consisted in using visual stimuli that were assumed to be similar in terms of excellence of technique and familiarity, in order to eliminate those alternative explanations for the general taste factor. In addition, he used innovative statistical methods inspired by Burt (Burt, 1933, 1940; Davies, 1939) to extend the range of his scientific conclusions. Participants with different backgrounds – to maximize inter-individual differences – were recruited to rate carefully selected pictures. A first factor analysis with participants as variables showed that their rankings were consistent with one another, replicating and refining Dewar’s findings on the general taste factor. Using the overall ranking as a reference point, Eysenck could also investigate individual differences in aesthetic appreciation, paving the way for the notion of aesthetic sensitivity – ‘T’ – as an individual ability to identify aesthetic quality. This ability was only weakly correlated with the *g* factor, which would support later the creation of specific assessment tools to investigate aesthetic sensitivity (Götz et al., 1979). Additional factor analyses (Eysenck, 1941e) revealed a second factor differentiating between preferences for ‘formal’ pictures and preferences for ‘representative’ pictures, which was later identified as the ‘K’ factor, and likened to a personality trait.

3.2. Keeping an eye on aesthetics

At the end of his thesis, Eysenck, although living through the Blitz in London, was already establishing himself as an authority in many fields of psychology – his thesis, submitted in 1940, included papers on a variety of topics, including hypnosis, intelligence and quantitative methods (Buchanan, 2010, p. 62). While he became dedicated to other topics that would soon make him notorious, he kept an interest in aesthetics, and replicated his initial factor analytic results concerning the ‘T’ and ‘K’ factors (Eysenck, 1941a, 1941d, 1941e, 1942b, 1968). With the identification of the ‘T’ and the ‘K’ factors, Eysenck not only succeeded in refining empirically Birkhoff’s formula into a product of order and complexity (Eysenck, 1942b), he connected the field of empirical aesthetics with individual differences psychology, showing, with innovative statistical methods and eloquence, that the focus of empirical aesthetics should not only be what is universally liked, but also what differentiates individuals in their likings.

After his factor analytic works, which constituted the main part of his early works on empirical aesthetics, Eysenck turned to other topics, but some of his studies on connected topics retained the marks of his previous works. For example, he studied the adaptation of the Mosaic Projection Test, in which participants are “required to make up patterns from colored pieces of wood, available in various shapes” (Himmelweit & Eysenck, 1945). Furthermore, his works in fields other than aesthetics confirmed his *gestaltist* views, for example referring to the Gestalt theory when commenting on McEwen’s work on figural after-effects (Eysenck, 1962). Although Eysenck’s interest in aesthetics is often regarded as secondary, he also expressed being “passionately interested poetry, painting and music” since his youth (Eysenck, 1992, p. 7) and it can be argued that his works on creativity (Eysenck, 1995) are another sign that he never really left art and aesthetics behind.

3.3. Working on measures

3.3.1. Studying ‘T’

As explained earlier, Eysenck discovered ‘T’ by finding that the judges who agreed the most with the average judgments were the same in different domains. In other words, the manifestation of ‘T’ is the tendency to agree with consensual judgments of beauty. Very early, Eysenck likened ‘T’ to intelligence (Eysenck, 1940b), and found a .25 correlation – though not significant in his first investigation – between ‘T’ and intelligence, defining ‘T’; as “independent of teaching, tradition, and other irrelevant associations” (Eysenck, 1940b, p. 102).

Although Eysenck put ‘T’ aside for years, experiencing difficulty enrolling artists for the construction of a measure (Eysenck, 1997, p. 72), this view clearly defined his later works on ‘T’.

Eysenck came back to “T” through the examination of already existing aesthetic sensitivity measures. Notably, he found that the Maitland Graves Design Judgment Test (Graves, 1948) had an unsatisfactory construct validity (Eysenck, 1967) and predictive validity, as it failed to effectively differentiate between artists, art students and non-art students (Eysenck, 1970a, 1972; Eysenck & Castle, 1971). Its content was also attacked by Götz and Eysenck as having low interest (Eysenck, 1997; Götz & Götz, 1974; Götz et al., 1979), leading to the construction of a new measure.

Karl O. Götz, a well-known German abstract painter and professor who had become Eysenck’s friend (Eysenck, 1997), built pairs of stimuli for the Visual Aesthetic Sensitivity Test (Götz, 1985). Götz drew first the ‘good’ picture, and then a similar picture that had intentionally incorporated faults (Eysenck, 1997, p. 74). Participants, when responding to the test, have for each pair – good and defective presented aside – to indicate which design is aesthetically superior – which is not necessarily the one they prefer. The content validity is assessed by the unanimity of 8 art-experts and the general population consensus in favor of the aesthetically superior drawings.

Eysenck and Götz investigated the psychometric properties of the test, notably showing that the influence on the scores of cultural, gender, personality, age and training factors were minor, while the test was weakly to moderately correlated with intelligence (Chan et al., 1980; Eysenck et al., 1984; Frois & Eysenck, 1995; Götz et al., 1979; Iwawaki et al., 1979). They encountered, however, initial problems of reliability (Eysenck, 1972; Eysenck et al., 1984) – which appeared to be addressed by revisions (Frois & Eysenck, 1995; Götz, 1987; Myszkowski, Storme, Zenasni, & Lubart, 2014) – and did not publish any investigation of the factor structure of the test.

3.3.2. Studying ‘K’

Eysenck was of course not only interested in ‘T’, but also in the second factor that emerged from his factor analytic studies: ‘K’. The same way that Eysenck early identified ‘T’ as linked to general mental ability, he identified ‘K’ as mostly related to ‘temperament’ (Eysenck, 1942b, p. 360). While it was not the object of as many psychometric investigations as the Visual Aesthetic Sensitivity Test for ‘T’, Eysenck (1941b, p. 346) designed a ‘K test’ (Eysenck, 1941b, 1941e), which was composed of “15 pairs of pictures chosen in such a way that the two pictures forming each pair dealt with much the same subject, but in two different ways”, one being “modern”, the other being “academic.” Eysenck in this same article showed that the ‘K’ factor was correlated with several socially relevant individual differences: correlational analyses revealed that older, introvert, conservative individuals tended to prefer older painting styles whereas younger, extrovert, radical individuals tended to prefer more modern painting styles.

Although the ‘K’ factor was not reinvestigated explicitly using ‘K-tests’, ‘K’ has actually been reinvestigated through the various measures of one’s tendency to prefer complex art – abstract and surrealist paintings, classical music, jazz music, and so on – what is also referred to as ‘creative judgment’ (Furnham & Bachtiar, 2008). Ad-hoc or standardized measures of ‘K’ include not only tests based on likings of more or less complex aesthetic stimuli (Chamorro-Premuzic, Reimers, Hsu, & Ahmetoglu, 2009; Eysenck, 1942a; Eysenck & Furnham, 1993; Furnham & Bunyan, 1988; Rawlings, Barrantes-Vidal, & Furnham, 2000; Rawlings, Twomey, Burns, & Morris, 1998; Welsh, 1975), but also self-report biographical measures artistic activities and interests (e.g. Chamorro-Premuzic & Furnham, 2004, Furnham & Bachtiar, 2008, Furnham & Chamorro-Premuzic, 2004). Eysenck more specifically used the Barron-Welsh Art Scale (Barron & Welsh, 1952) in his works (Eysenck & Furnham, 1993).

Eysenck focused mostly on the relationship between ‘K’ and personality (Eysenck, 1988, 1992), especially when investigating relationships

between ‘K’ and Psychoticism (Eysenck & Furnham, 1993). Although Eysenck’s early works on ‘K’ indicated that theoretically ‘K’ could also be associated with intelligence (Eysenck, 1942b, p. 360), his empirical works on ‘K’ as associated with personality traits can certainly be connected with Eysenck’s idea that artistic creativity is more a personality trait than an aspect of intelligence (Eysenck, 1983, 1993; Eysenck & Furnham, 1993).

4. Extension and criticism

4.1. Quantifying the unquantifiable

As with so much of his other work, Eysenck’s contribution to the field of aesthetics has encountered criticism, notably from artists. Indeed, this came not only when he attempted to build stimuli for a measure of the ‘T’ factor (Eysenck, 1997, p. 72) but also after the publication of the Visual Aesthetic Sensitivity Test. The most vigorous reproach that the test had to face was both about the very limitations of its content – black and white abstract art – about calling the measured construct ‘good taste’, and about the conception of art judgment as an ability. Gear (1986, pp. 563–564) eloquently summarized the criticisms of Eysenck and Götz’ work, reducing the test to “a test of the ability to discriminate between greater and lesser degrees of ‘harmony’ in monochromatic two-dimensional figures in the same way as the well-known German painter Götz, eight other well-known painters and the well-known British psychologist Professor H. J. Eysenck”, adding with sarcasm that Eysenck’s score was “a remarkable 100%”.

Many researchers in empirical aesthetics, as well as in creativity research – including the authors of this manuscript – regularly find opposition from artists and non-artists (the latter may be more surprising, but after all, aesthetic perceptions and creations are everywhere in anyone’s life). Such opposition can be abridged in the idea that art is not a standard stimulus that can be reproduced in a laboratory and cannot be put in a standardized measure. Scientists, on the other side, often appear very certain about their findings; and, standing next to presentation slides full of statistical ornaments, can easily forget about the evasive nature of art as an object of study.

Empirical aesthetics call for multidisciplinary approaches (Augustin & Wagemans, 2012), and, even though Eysenck’s style is rooted in a combination of a self-confident personality and devotion to scientific methods, which probably did not help his case from an artist’s point of view – not mentioning the association of ‘T’ and ‘g’ – the process of involving an artist and art experts when creating the Visual Aesthetic Sensitivity Test can surely be seen as an effort to work across disciplines and to include the perspective of artists. Additionally, Eysenck’s *gestaltist* view of art appreciation, along with his consideration of the ‘K’ factor, attest to the fact that Eysenck did consider the perception of art as impossible to reduce to atomic elements, even though the attempt to build any standardized measure of ‘good taste’ suggests otherwise and is enraging to many.

4.2. The lack of culture and training effects in ‘T’

Another point that can be made about Eysenck and Götz’ approach of ‘T’ is the focus on the demonstration of the lack of cultural differences. In contrast, many people consider that culture plays a large role in aesthetic standards. One should note that, in spite of Eysenck’s confidence in his results showing no cultural differences in aesthetic sensitivity (Chan et al., 1980; Eysenck et al., 1984; Iwawaki et al., 1979), he also, himself, noted that “this point should not be stretched too far” and that “it certainly is not denied that cultural influences have very great importance indeed” (Eysenck, 1970b, p. 321); instead, it was his objective to rule out these ‘irrelevant’ factors to “isolate the determinants of genuinely aesthetic responses”. In other words, Eysenck was seeking to build a test that is independent from cultural differences in order to isolate the construct he wanted to measure – which is also a reason

for the fact that these findings were framed as psychometric investigations rather than having theoretical implications (Chan et al., 1980; Eysenck et al., 1984; Götz et al., 1979; Iwawaki et al., 1979) – and his conclusions of cultural similarities should not be seen as attempts to demonstrate that culture has no effect on aesthetic experience, but rather as demonstrations of the Visual Aesthetic Sensitivity Test's discriminant validity.

A similar point can be made about the Visual Aesthetic Sensitivity Test not showing differences between trained and untrained individuals (Frois & Eysenck, 1995). Eysenck's construction and psychometric investigation of the test shows that, by design, the test was made to measure a construct that is free from training effects – supporting the influence of biological factors on the test. In other words, the Visual Aesthetic Sensitivity Test was designed avoiding to measure art training, rather than designed to have theoretical implications regarding the effectiveness of art trainings – more specifically, their apparent inability to develop 'T'. Nevertheless, one could surely point out that, while Eysenck criticized the Design Judgment Test's inability to discriminate between artists and non-artists (Eysenck & Castle, 1971), he did not describe the "training-free" feature of the Visual Aesthetic Sensitivity Test as a fault.

4.3. Relations of 'T' and 'K' with other constructs

The results of Eysenck's factor analytic work on aesthetics, empirically supporting a *gestaltist* definition of beauty as Order in Complexity, corresponding to an ability to recognize aesthetic quality ('T') and the tendency to prefer complexity ('K'), can be seen as a preview of his later conception of creativity as relevance and originality (Eysenck, 1995, p. 36).

As was earlier explained, the results of Eysenck on 'T' suggest that it shares variance (with a correlation around .30) with the general factor of intelligence. Such results have later been replicated (Furnham & Chamorro-Premuzic, 2004; Myszkowski et al., 2014), and support the view that aesthetic sensitivity, as it is measured by the Visual Aesthetic Sensitivity Test and similar tests – notably the Judgment Design Test (Graves, 1948) – is, at least partly, a cognitive ability. However, whereas Eysenck's results pointed to the lack of relations between 'T' and personality traits, his results were found using wide-ranging personality inventories (Frois & Eysenck, 1995), and recent results actually suggest that 'T' is related to a set of personality traits. Notably, Furnham and Chamorro-Premuzic (2004) found a relationship with extraversion, and Myszkowski et al. (2014) found significant positive correlations with various personality traits, including openness to aesthetics, fantasy, feelings and ideas, preference for order, and sensation-seeking. Furthermore, they found that the Visual Aesthetic Sensitivity Test was correlated with figural creativity – contrasting with Eysenck's finding that the technical drawing skills of artists was not related to aesthetic sensitivity (Eysenck & Hawker, 1994). These results clearly indicate that the investigation of 'T' should be further extended to other types of dispositional dimensions than cognitive abilities.

Additionally, while Eysenck concentrated his efforts on correlations between 'T' and dispositional attributes, what makes individuals more expert-like when judging art can be studied in other ways. For example, it can be argued that art expertise, more than having higher abilities, lies in judging art based on different – more structural, and/or more relevant – elements than non-experts (Augustin & Leder, 2006; Nodine, Locher, & Krupinski, 1993).

Regarding 'K', Eysenck's ideas certainly led to numerous works. Notably, his work on creative, modern, non-conventional judgment and its relationships with personality, notably psychoticism, can undoubtedly be connected to the abundant subsequent literature that precisely defined the artistic personality, notably as related to psychoticism (e.g. Burch, Hemsley, & Corr, 2006; Burch, Pavelis, Hemsley, & Corr, 2006; Eysenck & Furnham, 1993; Furnham & Yazdanpanahi, 1995; Götz & Gotz, 1979; Rawlings et al., 1998; Stavridou & Furnham, 1996),

or unconventionality (Batey, Chamorro-Premuzic, & Furnham, 2010; Feist, 1998; Furnham & Bachtari, 2008). Eysenck's work also influenced many scholars, not only in Europe but also in the United States: Barron (1953), a pioneer researcher in the psychology of creativity, frequently referred to Eysenck's work on aesthetics to describe his investigation on creativity and art and particularly the description of the complexity-simplicity personality traits.

4.4. Towards an Aesthetic Quotient?

Eysenck predominantly compared 'T' to a form of aesthetic intelligence, but he also indicated that 'K', though mostly related to personality, could also be related to intelligence (Eysenck, 1942b, p. 360). In this view, we could propose that 'T' and 'K' can be likened to the duality of two forms of intelligence. Indeed, the description of 'T' as an untrainable knowledge-free ability and the definition of 'K' as a form of sophistication (Eysenck, 1942b, p. 354) seem to point to many contemporary intelligence deconstructions as a combination of both fluid/performance and crystallized/verbal aspects (e.g., Cattell, 1963). Going further, we believe and we propose that Eysenck's view of aesthetic preferences as a 'T-K' combination sowed the seeds for the consideration of a multifactorial aesthetic capacity construct – in other words, as suggested by the proximity we underlined, to the consideration, study and measure of an Aesthetic Quotient (AQ), which we could tentatively define as the global capacity to perceive, identify, process, evaluate, discuss and be empathetic with the elements, composition and meaning of art and aesthetic objects.

4.5. Today's perceptions of Eysenck's works

Eysenck's approach to aesthetic judgment completely embraces the idea of the objective superiority of some stimuli over others. This objectivist view of beauty is in direct conflict with a more popular and modern subjectivist view of beauty as 'in the eye of the beholder', which conceptually prevents to consider aesthetic judgment as an ability. The authors of this paper can attest that research participants who take the Visual Aesthetic Sensitivity Test are usually surprised by its very existence: How could a test or a researcher tell whether they have 'good taste' or not? After all, contemporary art – especially shock art – has clearly broken a lot of rules, including aesthetic rules, and has demonstrated that the value of art can reside in other aspects than its aesthetic harmony.

Eysenck, when defending the usefulness of *g*, explained that "Spearman and his followers have never posited the existence of intelligence", adding that "they have regarded it as scientific concept" instead (Eysenck, 1988, p. 2), and that *g* is however *useful* to explain a variety of individual differences. In the case of 'T', we could propose to formulate a similar answer to the previous attacks: 'T' or 'good taste' may not exist, may be very hard to define and measure, but it may be useful in many ways. For example, it could predict one's ability to elaborate a user-friendly webpage design, or an appreciated advertisement page. 'T' could also be an early 'perceptual' expression of spatial intelligence or be related to its development. Stretching the concept, visual creation software typically include features to make visual elements symmetrical, aligned, 'snapped to a grid' or evenly distributed, and these features are a form of 'T-assistance' – who would doubt their utility? As Eysenck noted, "originality is not enough to be considered creative" (Eysenck, 1995, p. 36). Indeed, we should probably think of 'T' as a practical construct, a metronome that can help individuals play in rhythm, when they want or need to.

5. Conclusion

Eysenck's works on empirical aesthetics are without a doubt the work of the passionate, artistic and provocative researcher he is described (Corr, 2016). His interests in art and aesthetics, as well as his

will to push empirical science to a variety of uncharted territories, is clearly displayed in how the early and the late Eysenck made efforts to make psychological science gain and claim ground in aesthetics, surely engaging artists and the art observer in each of us that wants to consider that one's ability to judge art cannot be measured or maybe even studied. Eysenck embraced not only Fechner's idea of aesthetics von Unten (Fechner, 1876) – placing artworks in psychological assessments, introducing sophisticated experimental and statistical methods, and nuancing through empirical results the theoretical works of mathematicians – but also the complexity of art as an object of study – empowering artists and art experts with authority on what constitutes aesthetic value, and considering such value as irreducible to atomic elements.

Eysenck's early cross-individual factor analytic works on aesthetics – defining the 'T' and the 'K' factor – as well as his later work on these two constructs are not only another proof of his wide-ranging, open-minded and extraordinarily prolific scientific activity: they revealed how empirical aesthetics could be centered on dispositional factors, and built critical bridges between individual differences psychology and aesthetics. As in so much of Eysenck's other works, even in this sphere, he showed, through the duality of 'T' and 'K', the importance of personality and intelligence.

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