Aesthetic issues in spatial composition: effects of position and direction on framing single objects

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Abstract—Artists who work in two-dimensional visual media regularly face the problem of how to compose their subjects in aesthetically pleasing ways within a surrounding rectangular frame. We performed psychophysical investigations of viewers’ aesthetic preferences for the position and facing direction of single, directed objects (e.g. people, cars, teapots and flowers) within such rectangular frames. Preferences were measured using two-alternative forced-choice preference judgments, the method of adjustment, and free choice in taking photographs. In front-facing conditions, preference was greatest for pictures whose subject was located at or near the center of the frame and decreased monotonically and symmetrically with distance from the center (the center bias). In the left- or right-facing conditions, there was an additional preference for objects to face into rather than out of the frame (the inward bias). Similar biases were evident using a method of adjustment, in which participants positioned objects along a horizontal axis, and in free choice photographs, in which participants were asked to take ‘the most aesthetically pleasing picture’ they could of everyday objects. The results are discussed as affirming the power of the center and facing direction in the aesthetic biases viewers bring to their appreciation of framed works of visual art (e.g. Alexander, 2002; Arnheim, 1988).

Keywords: Aesthetic preference; spatial composition; rectangular frame; center bias; inward bias.

INTRODUCTION

Painters, photographers, graphic designers, and other visual artists who work in two-dimensional media continually face the problem of how to frame the subjects of their creations in aesthetically pleasing ways. The general issue is one of spatial composition: How should the to-be-depicted object(s) be situated within a rectangular frame so that the average viewer has the most aesthetically pleasing experience on viewing the result? (see Note 1). Although there is no

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shortage of opinions about such matters — searching amazon.com for books on artistic composition yields literally dozens of contemporary treatments — there is surprisingly little empirical evidence about what factors matter and what effects they have. The present article reports an initial scientific exploration into two fundamental aspects of spatial composition: the position and facing direction of a single object within a rectangular frame.

Although the aesthetic principles we describe here are clearly related to some of those advocated by various scholars and teachers of art, they are also different in an important respect: Our proposals are purely descriptive, empirical generalizations based on measured preferences of an educated subset of the general population (namely, young college students). Most other sources of aesthetic principles are decidedly more ambitious, either attempting to formulate what viewers should prefer (a normative or prescriptive approach) or attempting to reveal hidden principles that underlie aesthetic success in a body of acknowledged work. There are many treatises of both sorts, a review of which is beyond the scope of this article.

Of the many factors discussed as relevant to the aesthetics of spatial composition, perhaps the most important is the concept of ‘center’. Rudolf Arnheim’s classic 1988 book on spatial composition is even entitled, The Power of the Center, and other authoritative treatments of aesthetic structure likewise emphasize its importance (e.g. Alexander, 2002). Many ‘centers’ are relevant to the spatial composition of an aesthetic object, the most important of which, of course, is the center of the frame itself. Also important are the centers of each object within that frame, the centers of various groups of related objects within the frame, and even the center of the viewer. Arnheim (1988), Alexander (2002), and others discuss the relationships among these centers in considerable detail, and generally note that whatever is placed at the center of the frame receives greatest visual importance, be it a single object or a group of two or more related objects. Crucially, the center holds the stability and balance of a composition and “reaches as far as the condition of balanced stability holds” (Arnheim, 1988). That is, the perceptual center need not occupy the precise geometric center of the frame, but can vary in shape and size as the objects and spatial composition of the scene vary. We note that the same can be said of the center of a given object or group of objects, which may not be at the precise geometric or gravitational center of that object.

Interestingly, this emphasis on the aesthetic importance of the center is somewhat at odds with much of the empirical work on aesthetic preferences due to spatial composition, which tends to emphasize asymmetries in off-center compositions. The genesis of this line of research appears to be an early claim by Wölfflin (1928), as reported in Gaffron (1950), that aesthetically pleasing paintings generally have their principle figure or major area of interest located distinctly to the right of the physical center of the picture. Wölfflin and Gaffron suggest that this effect arises because people tend to scan pictures in an arc from lower left to upper right, so that content right of center is perceptually emphasized and therefore more salient. Although their claims were purely phenomenological, subsequent empirical