This paper contributes to the debate about the utility of the grammatical paradigm in art and design. It reports an investigation of the contingent sense in which grammars and grammatical design apply in the practice of form making in art using two complementary research strategies: the examination through a perspective of grammatical design of some selected bodies of art work, including interviews with artists, theorists and designers; and the reflective practice of image making with computer media in my own work as an artist. The major hypothesis is that a contingent sense of grammar can facilitate the creation, understanding, and discussion of form-making in art. The sub-hypotheses are that (1) An understanding of grammatical design can enhance a reflective design activity, and that (2) Revealing the contingency of grammars can expose moments of inspiration and redirection in a reflective design activity.
1. Introduction

Formal computational grammatical programs are few while many critics of grammars are often without personal hands on experience. This paper explores the first hand use of computational grammatical programs to generate two- and three-dimensional forms. It investigates the idea of grammars through examining bodies of work from a grammatical perspective, accepting the idea of grammar and rules. It concentrates on the views of some of those who use the idea of grammars: how these ideas relate to art. The work of some selected artists that have been the subject of grammatical analysis are discussed to illustrate the application of grammatical perspective in a formal way.

Special consideration is given to the field of art, particularly painting to enhance links between design fields, especially art and architecture. Ideas of grammar and grammatical design and the associated idea of rule are used and located within discourses of artists and designers. Ideas of contingency, are highlighted, first as a concept and then within the specific discourses of art, architecture, and grammatical design. The idea of rules in art is then discussed. It then reviews some of the positions taken about the nature of grammars as computational systems; as encapsulating knowledge of style and form; as a frame of reference in the composition of shape and form in designing and in discourse about art and design. The contingency of grammars is then discussed to show how rules are used to develop awareness of hermeneutical moments and metaphorical truths.

Contingency is understood as both “in addition to” and “depend upon” the moment of grammatical design decisions and judgements. A plurality of ideas of grammars in art and design is emphasised: when two people refer to grammars, they may be referring to very different concepts. It concludes by supporting a view of the utility of grammars contingently in art and design.

2. Grammar

The idea of grammar in art and design draws on analogies between “visual languages” and “natural languages”. The role of grammar in natural language is to independently facilitate the communication of meaning by providing and organisational structure. Universal principles of natural language were put forward by Noam Chomsky (Chomsky 1957). His theory of transformational grammar was based on a system of internalised rules capable of generating an infinite number of grammatical sentences. For generative grammarians in linguistics, a grammar refers to the entire system of structural relationships in a language, viewed as a set of rules for the generation of sentences. This idea of transformational generative grammars emerged with the use of computers for the analysis of natural language, concentrating on formalist approaches.

The use of grammar as an analogy or metaphor in art and design arose with the mathematical work on production systems of Post (Post 1943), and was developed