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Display of graphics and their applications, as exemplified by

# 2-categories and the Hegelian “taco”

1)

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## A graphic monoid H satisfies identically xyx - xy and an

**application of M is a right • M-set. Every left ideal of such**

**an M is also a right ideal, simplifying and structuring the**

**study of the topos of applications.- An informal process of**

**displaying pictures of graphics and applications is exemplified,**

**with conjectured use in the organization of knowledge. The Hege-**

**lian organization of knowledge is concretely realized in terms**

**of adjoint functors on “any” mathematical category, and is used**

**to give a precise definition of the dimension needed for a dis-**

**play. A central fragment of the Hegelian scheme is revealed as**

**an 8-element graphic, whose suggestive display has reminded some**

**of a taco.**

I. INTRODUCTION

By a graphic we will mean any finite category each of whose

endomorphism monoids satisfies the identity xyx = xy ; in parti-

cular, a graphic monoid is a graphic category with one object.

By an application of a graphic category we will mean any right

action of it on finite sets (i.e. any contravariant finite-set-

valued functor on it). If I is any object of a graphic G ,

then G(-,I) is a particular application (often called the right

regular representation in the case of a monoid) and together

these give a full embedding of G into the topos of all appli-

cations of G , to which we freely apply the Cayley-Dedekind-

Grothendieck-Yoneda lemma. If X is any application of the

graphic G , then the “comma” category G/X (whose objects are

the elements of X and whose morphisms determine the action via