

Interlego A.G.

Appellant

v.

- (1) Tyco Industries Inc.
- (2) Tyco (Hong Kong) Limited
- (3) The Refined Industry Co. Limited and
- (4) Denifer Technology Limited

Respondents

(and Cross-Appeal)

FROM

THE COURT OF APPEAL OF HONG KONG

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JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE  
OF THE PRIVY COUNCIL, DELIVERED THE 5TH MAY 1988

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*Present at the Hearing:*

LORD KEITH OF KINKEL

LORD TEMPLEMAN

LORD ACKNER

LORD OLIVER OF AYLERTON

LORD JAUNCEY OF TULLICHETTE

*[Delivered by Lord Oliver of Aylmerton]*

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The appellant in this appeal is one of a group of companies engaged in the manufacture and sale of what must be one of the most universally known and used children's toys in this century. "Lego" is a system of model-building consisting in the main of plastic brick-shape blocks (although there are other shapes) so designed that they are capable of being joined together so as to form a stable structure but one which is capable of being dis-assembled without damage to the constituent elements. This is accomplished by providing on the upper surface of each block one or more cylindrical studs or knobs which are so spaced and designed as to fit tightly into the base of another similar block, such base being hollow and furnished with a skirt and tubes positioned so as to bear upon the studs and hold them in position. The system was originally designed by a Mr. Hilary Page who marketed it under the trade-name "Kiddicraft". It was the subject-matter of U.K. patents which expired in 1954 and 1959 respectively.

The appellant is a Swiss company holding the intellectual property rights of the group which was originally founded by a Mr. Christiansen and has its headquarters in Denmark. It will be convenient to refer to the appellant and the group to which it belongs as "Lego". The Kiddicraft design was not protected by patent in Denmark and it is not in dispute that the original Lego bricks were, for practical purposes, a precise copy of the Hilary Page design. No point arises on this. Prior to these proceedings Lego purchased from Mr. Page's executors any copyright still subsisting in the Page designs. The Lego bricks were attractively presented and advertised and were marketed with considerable success. The basic design, with minor improvements, was the original Page design which consisted simply of the studs fitting into the hollow skirt of the upper brick. That is conveniently referred to as "the first generation" brick. Modifications were made, producing a second generation brick, but these are irrelevant for present purposes. In 1958, however, Lego devised an improved design, the "third generation" brick, the salient feature of which was that there were inserted within the skirt forming the base of the brick three hollow tubes so positioned as to bear upon the upright side of the studs of the brick below and thus to improve "clutch-power". The elements concerned are conveniently referred to by reference to the number and arrangements of the studs. Lego protected the design both by patent and by registering a design under the Registered Designs Act 1949, designs being registered for the 2 x 4, 2 x 2, 1 x 2 and 1 x 4 bricks. The patent and the design registration both expired in 1975.

In addition to the ordinary range of Lego bricks, Lego also devised a system of model-building designed for smaller children and marketed under the name "Duplo". This consisted broadly of a large-scale Lego, the block being substantially larger than Lego bricks so that they could be easily handled by smaller children. They operated in the same way, the blocks being held together by studs on the lower block bearing on the skirt of the upper block. They were so designed and proportioned that they could also be used in conjunction with blocks from the Lego range. Duplo was patented in Denmark in 1967 and was subsequently patented in the United Kingdom. Its initial launch in 1969 was not successful but it was subsequently re-packaged and re-launched in 1971 and has since sold very successfully.

Although other manufacturers have attempted to launch and market competing products operating on broadly similar principles, none has achieved anything like the success of the Lego and Duplo ranges which, for the past thirty years or more, have completely dominated the market in children's model-building systems.

The first respondents, Tyco Industries Inc., are a United States corporation established some 50 years ago. They carry on a successful business of toy manufacturers with factories in the United States and Hong Kong. The second respondent is the Hong Kong subsidiary of the first respondent and they can conveniently be referred to together as "Tyco". In 1983 Tyco resolved to break into the model building market. They concluded, no doubt correctly, that the dominance of Lego in that market was such that no model-building system could be successfully marketed unless it was so designed as to be compatible and capable of being combined with Lego. Lego's patents and designs in the United States had, by this time, expired by effluxion of time and Tyco were advised that there was nothing to prevent them from manufacturing and marketing model-building elements which were precise copies of the principal Lego elements. They accordingly purchased examples of these elements in the United States and in Hong Kong in 1983, and it is common ground that they copied elements of the old design which form the core of the Lego system. They also manufactured elements of their own design which were so proportioned and devised as to conform with the basic dimension of the Lego system. It should be emphasised that there was nothing underhand about this. Tyco exhibited the prototypes of their modular elements at the New York Toy Fair in February 1984 and informed Lego representatives of what they were proposing to do, that is to say, to manufacture and sell a model-making system openly advertised as looking like Lego, working like Lego, and capable of combination with Lego but sold at a competitive price. It was part of Tyco's marketing strategy that some or all of the modular units should be manufactured in Hong Kong and an open letter dated 25th May 1984 was addressed by their attorneys to Lego setting out what they proposed to do. As a result of this Lego instituted proceedings in Hong Kong for infringement of copyright and it is from those proceedings that the present appeal arises. Lego claim that in producing, by a process of what is called "reverse engineering", what are, in all essential features, replicas of Lego and Duplo construction units, Tyco have infringed Lego's copyright in the design drawings from which the Lego and Duplo units were manufactured. It is not suggested nor could it be suggested that Tyco ever had or even saw the design drawings themselves. Their elements were made simply by measuring and reproducing the configuration of the three-dimensional Lego elements. There was originally a claim also for infringement of copyright in the moulds from which the Lego bricks were produced but that is no longer material and the appeal has been pursued only in relation to Lego's design drawings. These divide, for relevant purposes, into two categories, that is to say, those produced before 1st

January 1973 and those produced after that date. The significance of that date lies in the application to Hong Kong of the provisions of the United Kingdom Copyright Act 1956. That Act was first extended to Hong Kong by the Copyright (Hong Kong) Order 1972, the effective commencement date for present purposes being 1st January 1973. Any work made prior to that date was subject to the transitional provisions which are contained in the Seventh Schedule to the Act and it is the impact of those provisions on Lego's pre-1973 drawings which raises the first question in this appeal.

In the action, which was tried before Jones J. in the High Court of Hong Kong, Lego were successful in their claim for infringement of copyright in all their design drawings, save that, on their counterclaim, Tyco obtained a declaration of their entitlement to manufacture one item, a new version of the 2 x 2 x 2 roof tile. On 20th March 1986 an Order was made restraining Tyco from infringing copyright in all the drawings specified in Lego's amended pleading and granting consequential relief by way of delivery up and an inquiry as to damages. On an appeal by the respondents to the Court of Appeal of Hong Kong, that court, on 6th May 1987, reversed the decision of the trial judge so far as it related to Lego's pre-1973 drawings but affirmed it as to the remainder, leave being given to both appellant and respondents to appeal to Her Majesty in Council.

It will be convenient to deal with Lego's appeal and Tyco's cross-appeal separately since the former raises a quite distinct point and one which, if it is decided in Lego's favour, renders the questions raised on the cross-appeal academic save for a few minor items.

Section 10 of the Act of 1956 contains a code for regulating the extent and subsistence of copyright in relation to an artistic work where a design corresponding to such work is applied industrially. Paragraph 8(1) of the Seventh Schedule to the Act, however, provides that the section is not to apply to artistic works made before the commencement of the section, that is to say, in the instant case, 1st January 1973. Sub-paragraph (2) of paragraph 8 is in the following terms:-

"Copyright shall not subsist by virtue of this Act in any artistic work made before the commencement of section 10 which, at the time when the work was made, constituted a design capable of registration under the Registered Designs Act, 1949, or under the enactments repealed by that Act, and was used, or intended to be used, as a model or pattern to be multiplied by any industrial process."

The United Kingdom Registered Designs Act 1949 was not extended to Hong Kong in exactly the same way as the Act of 1956, but the United Kingdom Designs (Protection) Ordinance provides that, subject to certain provisions which are immaterial for present purposes, the registered holder of a design in the United Kingdom is to enjoy, in Hong Kong, the same privileges and rights as if the United Kingdom Certificate of Registration had been issued with an extension to Hong Kong. Thus, for practical purposes, the parallel rights conferred by the Acts of 1949 and 1956 are both extended to Hong Kong. The questions raised by Lego's appeal are, therefore, first, whether the pre-1973 drawings constituted, as the Court of Appeal held, "designs" as defined by the Act of 1949 and were thus excluded from the ambit of copyright by the provisions of paragraph 8(2) and secondly whether, assuming that they constituted "designs" as defined, they were "capable of registration" inasmuch as, in Lego's contention, they lacked the essential quality of novelty without which a design cannot properly be registered under the Act. As has already been observed, designs for some of the third generation Lego bricks were in fact registered under the Act. Lego encountered some difficulty in persuading the Registrar to effect the registration and their present argument necessarily involves their now contending that the designs were improperly registered, a circumstance which gives rise to a subsidiary argument that they are now estopped from taking the point.

No issue is raised as regards the originality of the pre-1973 drawings for the purposes of copyright under the Act of 1956 and it is not in dispute that, in copying the later version of the Lego elements, Tyco infringed Lego's copyright in the pre-1973 drawings, if such copyright still subsisted at the date when the copying took place. The sole issue, therefore, on this part of the appeal, and subject always to the question of estoppel arising from the prior registration, is whether, under the provisions of the Seventh Schedule, any copyright subsisted after 1st January 1973 in any of the pre-1973 drawings or in the Page designs. Were they, as Lego originally asserted but now deny, designs capable of registration under the Act of 1949?

The relevant provisions of the Act of 1949 are contained in sections 1, 7 and 8. Section 1(1) provides that a design may, upon application by a person claiming to be the proprietor, be registered in respect of a specified article or set of articles. Sub-section (2) of section 1 sets out the conditions for registration and is in these terms:-

"Subject to the provisions of this Act, a design shall not be registered thereunder unless it is

new or original and in particular shall not be so registered in respect of any article if it is the same as a design which before the date of the application for registration has been registered or published in the United Kingdom in respect of the same or any other article or differs from such a design only in immaterial details or in features which are variants commonly used in the trade."

The critical provision in the present context is the definition of design contained in sub-section (3) which is as follows:-

"In this Act the expression 'design' means features of shape, configuration, pattern or ornament applied to an article by any industrial process or means, being features which in the finished article appeal to and are judged solely by the eye, but does not include a method or principle of construction or features of shape or configuration which are dictated solely by the function which the article to be made in that shape or configuration has to perform."

Sub-section (4) confers a power on what was then the Board of Trade to make rules excluding certain articles primarily of a literary or artistic character from registration. It is unnecessary to set out the terms of sections 7 and 8 in full. Section 7 describes the monopoly conferred by registration which is "to make or import for sale or for use for the purposes of any trade or business, or to sell, hire or offer for sale or hire, any article in respect of which the design is registered, being an article to which the registered design or a design not substantially different from the registered design has being applied". The period of this copyright is limited by section 8 to five years from the date of registration in the first instance, such period being renewable for two further successive periods of five years.

Lego's argument is that although the Registrar allowed himself, contrary to his initial inclination, to be persuaded to permit the registration of the designs for the third generation bricks, he ought never in fact to have done so, first, because the drawings were never "designs" as defined in section 1(3) of the Act, since they were, so it is argued, configurations wholly dictated by functional requirements, and, secondly, that, even if they were designs, they lack novelty (though not originality), having already been anticipated by the Page pattern and were thus not designs "capable of registration". Thus, the argument runs, they were simply original artistic works in which copyright under the Copyright Act 1956 subsisted and were unaffected by the

provisions of paragraph 8(2) of the Seventh Schedule to the Act.

The definition of "design" in section 1(3) of the Act of 1949 is hardly a model of Parliamentary draughtsmanship and this is by no means the first case in which its meaning and application have been called in question. In approaching the question of construction there has to be borne in mind that the purpose of the Act, as appears both from its terms and its legislative history, is to protect novel designs devised to be "applied to" (or, in other words, to govern the shape and construction of) particular articles to be manufactured and marketed commercially. It is not to protect principles of operation or inventions which, if protected at all, ought to be made the subject-matter of a patent. Nor is it to prevent the copying of the direct product of original artistic effort in producing a drawing. Indeed the whole purpose of a design is that it shall not stand on its own as an artistic work but shall be copied by embodiment in a commercially produced artefact. Thus the primary concern is what the finished article is to look like and not with what it does and the monopoly provided for the proprietor is effected by according not, as in the case of ordinary copyright, a right to prevent direct reproduction of the image registered as the design but the right, over a much more limited period, to prevent the manufacture and sale of articles of a design not substantially different from the registered design. The emphasis therefore is upon the visual image conveyed by the manufactured article. The essential features of the definition in the Act of 1949 first appeared in the Patents and Designs Act, 1919 which, by section 19, substituted a new definition for that previously contained in section 93 of the Patents and Designs Act 1907, where "design" was, somewhat unhelpfully, defined in terms of itself. The positive part of the new definition was substantially in the same terms as the first part of the definition in the Act of 1949 but there was excluded "any mode or principle of construction, or anything which is in substance a mere mechanical device". In *Kestos Limited v. Kempak Limited* (1935) 53 R.P.C. 139 Luxmoore J., in adverting to the definition introduced by the Act of 1919, observed that "a mere mechanical device is a shape in which all the features are dictated solely by the function or functions which the article has to perform". It seems probable therefore that it was this re-statement of the meaning of "mere mechanical device" which the draughtsman of the 1949 Act sought to substitute for the previous reference to a "mechanical device" and that it was not intended that any new or different principle should be applied to determine whether a particular shape or pattern was to be excluded from the definition. The starting

point remains the same as it always was - visual appearance. Nothing is to qualify as a design at all unless it has "features which ... appeal to and are judged solely by the eye", a requirement conveniently paraphrased by saying that the finished article must have "eye-appeal". That much is clear from the definition. What is less clear is the ambit of the exclusion. There are, apart from authority, three possible constructions of the definition taken as a whole, as was pointed out by Megaw L.J. in the Court of Appeal in *Amp Inc. v. Utilux Pty. Limited* [1970] R.P.C. 397 at page 433. It could mean that all that is registrable or is to be considered in connection with an application for registration is that part of the shape or configuration which has eye-appeal, any purely functional feature being excluded from registration. Alternatively, it could mean that any design which includes any feature which is dictated solely by function is to be excluded from registration. Or, finally, it could mean that a design which, ex hypothesi, has eye-appeal will be excluded from registration only if every feature of it is one which is dictated solely by function.

No one has contended for the first of these possibilities and such a construction would, indeed, make very little sense. In approaching the definition it is always to be borne in mind what is to be registered. It is a shape, configuration or pattern to be applied to a particular specified article and it is the shape or configuration of the whole article in respect of which there is to be a commercial monopoly. That necessarily involves taking the design and the article as a whole. Thus, the effective choice must be between excluding the whole shape or configuration from registration because there is a part of it that is purely functional or treating the whole shape or configuration as registrable (assuming that it has eye-appeal) unless the whole of it is dictated solely by functional considerations.

In their Lordships' view the latter construction is the one which makes better sense and it is in fact the construction which is supported by the authorities. Harking back to the 1919 Act the evident intention is to exclude a "mere" mechanical device, that is to say, an article fulfilling a mechanical function and nothing more, and that is reflected in the words "the function which the article to be made in that shape or configuration has to perform". What is contemplated here is that an article - and that must mean the whole of the article and not simply a part of it - is to be made in a particular shape or configuration. Thus the shape or configuration as a whole is being "applied to" the article as a whole. It then has to be asked, is that shape or configuration (i.e. the shape or configuration of the whole article) dictated solely by the functional



purpose? Moreover it makes no sense to exclude from registration designs for articles which have - and, indeed, may be intended to have as their principal attraction - a distinctive and novel appearance merely because they contain also features - perhaps even very minor ones - which are dictated by functional requirements.

This construction accords with the original paraphrase by Luxmoore J. of the expression "mere mechanical device" as a "shape in which all the features are dictated solely by the function". He added "the particular form must possess some features beyond those necessary to enable the article to fulfil the particular purpose, but the fact that some advantage derived from the adoption of a particular shape does not exclude it from registration as a design" (page 151). It accords also with the views expressed in the House of Lords in *Stenor Ltd. v. Whitesides (Clitheroe) Ltd.* (1948) (65 R.P.C. 1). There Viscount Simon (with whom Lord MacMillan agreed) expressed his concurrence with the views of Morton L.J. in the Court of Appeal that the design there in issue was excluded from registration because it possessed "no features beyond those necessary to enable the article to fulfil its function" (page 6). Lord Porter (at page 10) expressed broadly the same view. Lord Uthwatt (at page 17) observed that "every feature in the design was apt to serve a mechanical object and no feature had any other substantial quality. In the sum of the qualities of the design there was a mechanical device and nothing else". Finally it accords, on analysis, with the views expressed by the House of Lords in *Amp Inc. v. Utilux Pty. Limited* [1972] R.P.C. 103. That is a decision which has given rise to a little difficulty because the views expressed by the Lords who composed the Committee in that case do not altogether coincide, with the result that both parties seek to avail themselves of the decision as support for different propositions. Mr. Jacob derives from it the proposition that the mere co-existence of eye-appeal and functional efficiency is sufficient to entitle a design to registration, a proposition which appears to have been accepted in the instant case at least by Sir Alan Huggins V.-P. in the Court of Appeal in Hong Kong. Mr. Aldous derives from it, first, the proposition that eye-appeal involves something more than mere distinctiveness of shape and, secondly, that given that there are features of shape which are dictated solely by function, the fact that there is also present in the shape, whether intentionally or not, also an element of eye-appeal is not sufficient to confer on the shape the essential quality requisite for registrability as a design. To put it another way, a shape has to be tested by two criteria, one positive and one negative, and both must be satisfied in full before it can qualify as a design within the definition of the Act.

Accepting that there are differences of emphasis in the speeches of the various members of the Committee in the *Amp* case, their Lordships are nevertheless of the view that the principles to be deduced from it are tolerably clear. First, the primary essential before a shape can be registered as a design is that it should have eye-appeal and in this context (a) the eye is that of the prospective customer and (b) the appeal is that created by a distinctiveness of shape, pattern or ornamentation calculated to influence the customer's choice. This, at least, emerges from the speeches of Lord Reid at page 108 (with whom Lord Donovan agreed), Lord Morris at page 112 and Viscount Dilhorne at page 118. Secondly, the negative part of the definition does not involve, in order to demonstrate that a particular shape is "dictated solely" by function, showing that that function could not have been performed by an article in some other shape. All that has to be shown is that the relevant features of the shape were brought about only by, or are attributable only to, the function which the article in that shape is to perform, even if the same function could equally well be performed by an article of a different shape. Thirdly, if every feature of the shape is one which is attributable solely to the function which the finished article is to perform, then the exclusion operates even though the shape may also have eye-appeal.

It is this third proposition which has been the subject-matter of a good deal of debate before their Lordships, principally because of the views of Lord Reid which were expressed with less than his customary clarity in the last two paragraphs of his speech. The point is not dealt with in the speeches of Lord Morris and Lord Pearson, neither of whom considered that the shape in question in the case had any eye-appeal. Viscount Dilhorne was of the view that it did have eye-appeal, although he differed from the majority in his view of what constituted eye-appeal. Nevertheless he was quite clear that the mere existence of eye-appeal did not preserve the registrability of a shape where every feature was in fact dictated solely by functional considerations. The doubt is created by the final two paragraphs of the speech of Lord Reid where he observed (at page 110):-

"There must be a blend of industrial efficiency with visual appeal. If the shape is not there to appeal to the eye but solely to make the article work then this provision excludes it from the statutory protection.

I would add to avoid misunderstanding that no doubt in the great majority of cases which the Act will protect the designer had visual appeal in mind when composing his design. But it could

well be that a designer who only thought of practical efficiency in fact has produced a design which does appeal to the eye. He would not be denied the protection because that was not his object when he composed the design."

At first sight this looks as if Lord Reid was expressing a view directly contrary to that expressed by Viscount Dilhorne and advancing the proposition that, even in a case where every feature of the shape in question is dictated solely by functional requirements, nevertheless it qualifies for protection under the Act if, fortuitously, it also has eye-appeal. Their Lordships do not think that that can possibly be what Lord Reid intended. It is the essential requirement of a "design" as defined by the Act that it has eye-appeal. If it does not have that, then it fails to qualify without reference to the exclusion at all. There can be no purpose in an exclusion which applies only to a subject-matter already excluded. To give the exclusion any operation one has to postulate at least a situation in which the need for the exclusion arises. Thus the necessary condition for the exclusion to operate at all is the existence of a shape which has eye-appeal but which, because of features falling within the latter part of the definition, is nevertheless not to be treated as a design. If the mere coincidence of visual appeal with industrial efficiency were sufficient to entitle the shape to protection as a design, the negative part of the definition would have no scope for operation. It seems clear, therefore, that when Lord Reid said there "must be" a blend of efficiency with visual appeal he was simply indicating either that this was a requirement before the question of exclusion could arise at all or that there must be cases in which a coincidence of eye-appeal and function will occur and that, when they do, the inquiry is whether the shape is there solely to make the article work. If it is, then the exclusion operates. Equally when he postulates the case of the designer who fortuitously produces something with eye-appeal, it seems clear that what he had in mind was the addition, perhaps even unintended, of some features not solely dictated by function. This is the same situation as that envisaged by Lord Morris at page 113 when he said "I would not, however, exclude from possible validity for registration a case where someone set out to produce an article that would perform a particular function but where in producing it he added or applied ... some feature of shape that was additional to or supplementary to what was functionally needed, with the result that in the finished article there was a feature that appealed to the eye".

Whether or not this is the right interpretation of Lord Reid's words, their Lordships are clearly of the

opinion that the mere coincidence of eye-appeal with functional efficiency will not confer the right to protection if, in fact, every feature of the design is dictated by the function which the article is to perform. But what is the position where the shape has eye-appeal but where some only of its features are dictated solely by functional considerations? If the interpretation placed upon Lord Reid's remarks is correct, then he and Lord Donovan would clearly have contemplated that in these circumstances the exclusion would not operate to deprive the shape of protection as a design. Lord Morris clearly contemplated that it would not (page 113) and Viscount Dilhorne too (page 118) appears to have contemplated that any feature which went beyond those dictated solely by function and provided eye-appeal would entitle the shape as a whole to protection. This is, in their Lordships' view, clearly right in principle. The incorporation into the shape as a whole of some (perhaps a majority of) features dictated only by functional requirements will not bring the exclusion into operation so as to deprive it of protection, if there are also some features of the shape which are not attributable solely to function.

The principles are easy enough to state. They are not, however, so easy to apply and the difficulty is aptly illustrated by the opposite conclusions reached by Jones J. and the Court of Appeal in the instant case. There was a considerable body of evidence adduced by Tyco at the trial for the purpose of demonstrating that the Lego bricks in their finished form had eye-appeal. That, however, was not the right question and a good deal of the testimony was thus misconceived and was directed to such considerations as smoothness of texture, finish, colour and weight. None of that had any relevance to the only question with which the court was concerned, namely, whether the features of the shape or configuration of the Lego bricks were such as to appeal to and to be judged solely by the eye. Jones J. was not impressed by the evidence. He did not consider that the article had any feature which appealed to the eye and in any event found himself unable to distinguish any feature in the shape or configuration which was not dictated solely by the function which the brick had to perform as a brick designed to fit with and hold to other similar bricks. The Court of Appeal, influenced largely by the evidence, took a contrary view.

There are obvious difficulties involved in the application of the statutory definition to a shape whose principal features are largely conventional. Inevitably a designer who sets out to make a model brick is going to end up by producing a design, in essence, brick-shaped and there is clearly scope in

the instant case for the argument that what gives the Lego brick its individuality and the originality without which it would fail for want of novelty as a registrable design is the presence of features which serve only the functional purpose of enabling it to interlock effectively with the adjoining bricks above and below. But the question of whether the design has eye-appeal cannot, in their Lordships' view, properly be approached by isolating those features which may be said to be novel and those which may be said to be conventional and asking whether the former appeal to the eye. The design has, as previously mentioned, to be looked at as a whole and the question asked "do these features of shape or configuration, taken as a whole and in combination, appeal to the eye?" In answering that question, an inevitable difficulty arises when the article in question is a child's toy designed as or to be incorporated in a model. Such an article has of its very nature to appeal to the eye. It is designed to be looked at. Indeed, in one sense, that is its primary "function". The Lego brick could not have achieved the commercial success that it has if it did not look as much like an authentic building brick as is consistent with its technical function. In this sense, its function is to appeal to the eye. That, of course, cannot be the type of function referred to in the negative part of the definition, which can only sensibly be construed as referring to what the article is intended mechanically to do.

In relation, however, to an assessment of whether a particular shape or configuration satisfies the former and positive part of the definition, the fact that an important part of the very purpose of the finished article is to appeal to the eye cannot be ignored. That factor was one which was conspicuously absent from the articles upon which the courts were required to adjudicate in the cases of *Tecalemit Limited v. Ewarts Limited* (No. 2) ((1927) 44 R.P.C. 503), *Stenor and Amp* and in the more recent Irish case of *Allibert v. O'Connor* [1981] F.S.R. 613, in all of which the claim to registration failed. It was one which was present in the case of *Kestos* where the claim to the validity of the design succeeded. It is present in the instant case. One starts with the expectation of eye-appeal, for part of the very purpose of the article is to have eye-appeal. That was aptly expressed by Whitford J. in relation to the same subject-matter as in this appeal in the case of *Interlego A.G. v. Alex Folley (Vic) Proprietary Limited* [1987] F.S.R. 283 at page 298:-

"I would have expected a designer designing toys to have the question of the appeal of the toy to the eye, even in the case of a functional toy, in mind. Mr. Rylands who gave evidence for the defendants said that when designing a functional

toy it is necessary to have regard not only to suitability for purpose but to overall appearance. You have to design so that the article in question will make an immediate visual appeal to a child or to the parent or other person buying for a child."

Furthermore, although the expert evidence given at the trial was, in the opinion of the trial judge, largely misdirected (an opinion which their Lordships share) there was nevertheless other evidence of some significance. In assessing eye-appeal the motive or purpose of the designer, whilst not conclusive, is clearly of relevance. Thus in *Amp v. Utilux* the evidence given by Mr. Collier, who actually designed the article there in question, as to his purpose in selecting the particular shape which the article there took, was treated as significant both in the courts below and in the House of Lords. In the instant case there was a not insubstantial body of evidence that, in arriving at their design, Lego's draughtsmen had in mind not simply the functional efficiency of the brick, although that was clearly of primary importance, but its visual appearance. In the light of this and having regard to the very nature of the finished article under consideration, their Lordships conclude that the first and positive part of the definition is satisfied in the instant case.

For the reasons already given, however, that is not conclusive. It means merely that the question raised by the second and negative part of the definition falls to be answered. Given that the overall design has eye-appeal, are there any features of that overall design which are not solely dictated by the function which the article in that shape has to perform? Again the question is not susceptible of a simple and immediately apparent answer. The features which stand out on a casual inspection are, of course, the knobs on the upper surface of the article and the tubes within the skirt. Quite clearly those are not embellishments added to the basic brick-shape for the primary purpose of ornamentation. They serve a functional purpose - that of interlocking and holding the bricks together - and it is difficult to conceive of any other purpose which they serve which is not purely functional. But so to conclude does not in itself answer the relevant question. Is the whole shape or configuration for which registration was sought (and, in fact, achieved) a shape dictated solely by the function of interlocking and holding together? That question is not, of course, answered by the contention that there are various other ways in which the same result could be achieved, for instance by square protuberances, crenellated tubes, and so forth. Nevertheless one has only to look at the overall design to see that there are features of it which have no necessary relation to function.

There is, to begin with, an important finding of fact in the judgment of Jones J. in the High Court when describing the evolution of the Lego bricks by the original founders of the Danish company:-

"The original decision made by the Christiansens was to make the bricks in the same way as the Kiddicraft brick, but to be designed to look like a Danish brick. Some changes became necessary in order to achieve the effect that was required, which included the introduction of sharp edges and flat knobs, and an alteration in the measurements from inches into millimetres to conform to the metric system that was used on the continent."

This was based on the evidence of Mr. Godtfred Christiansen, the President of the appellant company, and on that of Mr. Bernhard Bodnia, who was responsible for making the moulds. The latter was particularly significant because it not only made it quite clear that the basic outline of the shape with its sharp edges and corners was a matter of deliberate choice for visual purposes - i.e. to make the end result look more like a Danish brick - but that the knobs on the original Page design, which had small blisters on top serving no functional purpose, were flattened partly for ease of manufacture and partly because it was thought that they would thus have a better appearance. It was, Mr. Bodnia said, always the intention to make "a good-looking brick". So right from the start the design was evolved, at least in part, with visual appeal in mind. Exactly the same consideration applied equally to the Duplo brick which was, as Mr. Christiansen observed, evolved with the intention "to look exactly the same way as the original eight knob brick". In another part of his evidence he stressed the importance of the appearance of a toy and asserted that he had always paid particular attention to the appearance of the Lego bricks.

It has already been mentioned that, in registering their designs, Lego had to overcome objections by the Registrar that there were no features of ornament on the designs. Reliance had, at that time, been placed on the knobs as ornamental features and Mr. Christiansen in his evidence asserted that they fulfilled both functional and ornamental purposes. Again in relation to the tubes, which in earlier versions of the brick were castellated and were equal to the length of the skirt, Mr. Christiansen's evidence was that these were replaced by an amended design in which the tubes were circular and did not go to the level of the bottom of the skirt because the castellated version was "messier" and the new version looked nicer. Thus although the presence of knobs and tubes is no doubt attributable simply and

solely to the functional purpose of providing clutch-power, the actual shape and dimensions of the particular knobs and tubes employed for that purpose were not dictated solely by their function but, in part at least, with a view to the appearance of the article as a whole. This evidence cannot be ignored and in their Lordships' view it necessarily negatives any conclusion that the shape or configuration of the Lego brick is dictated solely by the function which it has to perform. It is a shape which, in their Lordships' opinion, not only clearly has eye-appeal but has also significant features, both of outline and proportion, which are not dictated by any mechanical function which the article has to perform as part of a construction set.

It is, however, Lego's submission that, even on this hypothesis, the pre-1973 drawings are not excluded from copyright by the operation of paragraph 8(2) of the Seventh Schedule, because they are not "designs capable of registration under the Act of 1949". Section 1(2) of the Act, it is argued, authorises the registration only of a design which is "new or original". These drawings reproduced, with modifications, the Page designs which have been previously published and used as the basis for manufactured articles. Thus, at the time when they were made, they ought not to have been registered and reliance is placed on a decision of Eve J. in *Stephenson Blake & Co. v. Grant Legros & Co. Ltd.* [1916] 33 R.P.C. 406, a decision based upon section 22(1) of the Copyright Act 1911 which provided that the Act should not apply to designs "capable of being registered" under the Act of 1907. In that case it had been held, on agreed preliminary issues, that the plaintiffs had, when the Act of 1911 came into operation, a subsisting copyright under the Copyright Act 1842 in what was assumed to be a design which could have been registered under the Patents Designs and Trade Marks Act 1883. One question raised was whether the effect of section 22 was to deprive them of all protection since they could then no longer register under the Act of 1907 for want of novelty. Eve J. held that since, at the coming into operation of the Act of 1911, the plaintiffs' design was no longer new, it was then not "capable of registration" and thus was not excluded from copyright under the Act of 1911. That decision has been criticised as leading to the absurd conclusion that a person who had a design registrable under the 1907 Act but had not troubled to protect himself by registration retained his artistic copyright and was thus put in a better position than a person who had registered and who would so be deprived of his artistic copyright. Moreover the status of the decision as an authority is open to doubt because, when the case went to the Court of Appeal, that court discharged the order on the ground that the questions raised were entirely



hypothetical at the stage at which they were decided, Lord Cozens-Hardy M.R. observing that the discharge was "without prejudice to any question so that it cannot be used as a precedent".

The contrary conclusion was reached in the Canadian case of *Bayliner Marine Corporation v. Doral Boats Limited* (1987) F.S.R. 497 where the Federal Court of Appeal of Canada, construing section 46(1) of the Canadian Copyright Act 1970 (which was in substantially the same terms as section 22(1) of the Act of 1911) held that a "design capable of being registered" did not mean "registrable" but meant only a design which complied with the criteria necessary to qualify as a "design" within the meaning of the Act. To hold the contrary would, it was pointed out, involve the absurdity that a design sufficiently novel to be entitled to registration would be excluded from copyright protection whilst one lacking novelty would be entitled to copyright for the full period of the life of the author plus fifty years. The reasoning of the Canadian Court was followed by Whitford J. in *Interlego A.G. v. Alex Folley (supra)* at page 302 and by the Court of Appeal in Hong Kong in the instant case.

In seeking to support the reasoning of Eve J. in the *Stephenson Blake* case, Mr. Aldous prays in aid also the decision of the Court of Appeal in *Usher v. Barlow* (1952) 69 R.P.C. 27. That was a case concerned with the design of a wall plaque, an article which was excluded from registration under the Act of 1949 by rules made by the Board of Trade under section 1(4) of the Act. The design was one which had been published before the Act of 1949 came into force and was admittedly one which had been devised for the making of articles produced commercially. It had not, however, been registered under the Act of 1907 and would thus have been excluded from copyright by section 22(1) of the Act of 1911. The question was whether, upon the coming into force of the Act of 1949 and the rules, it had become entitled to copyright as an artistic work which was not capable of being registered. It was held by the Court of Appeal, affirming the decision at first instance, that the effect of the Interpretation Act was that the Act of 1911 had, after the coming into force of the Act of 1949, to be read as if references therein to the Act of 1907 were references to the Act of 1949 and that since, under that Act the design was excluded from registration, it was not a design "capable of registration" and therefore was not excluded from copyright by the operation of section 22(1) of the Act of 1911. The practical effect was thus that a work which previously had enjoyed no copyright protection by reason of section 22(1) became, on the coming into force of the Act of 1949 and the rules, entitled for

the first time to such protection, a result which could hardly have been intended when the Act of 1949 was passed.

That decision is not, of course, directly in point in the instant case, but Mr. Aldous prays it in aid as logically supporting Eve J.'s approach to the construction of section 22(1). If an order under section 1(4) of the Act of 1949 is to be treated as determinative of the question whether, for the purposes of paragraph 8(2) of the Seventh Schedule, a design is "capable of registration" why, it is asked, does it not logically follow that the requirement of novelty in sub-section (2) of section 1 is equally relevant to such determination? Certainly, at first blush, the literal words of the paragraph lend support to this view and it can be said that, even though Eve J.'s decision in the *Stephenson Blake* case is reduced by the decision of the Court of Appeal to mere dictum, it had been reported and was referred to in the textbooks when the 1956 Act was enacted and the legislature nevertheless adopted substantially the same wording for relevant purposes as that previously employed in the 1911 Act.

However, there are, in their Lordships' opinion, powerful arguments to the contrary, quite apart from the absurd position to which attention was drawn in the case of *Bayliner Marine v. Doral Boats*. In construing paragraph 8 regard must be had both to its purpose and to the legislative background. The Act of 1956 enacted, in section 10, new provisions regarding artistic works made after the Act came into force where corresponding designs, both registered and unregistered, were applied industrially. Those provisions were not to apply to existing works and the evident purpose of paragraph 8(2), which incorporates an exclusion broadly in the same terms as that previously contained in section 22(1) of the Copyright Act 1911, was to ensure that the Act did not have the effect of conferring a new copyright upon existing works previously excluded from copyright under that section. Whilst the subject-matter of exclusion is not expressed in precisely identical terms, the only alterations of substance are the reference to "any artistic work ... which ... constituted a design" (an alteration made necessary by the definition of "artistic work" in the 1956 Act) and the inclusion of the words "at the time when the work was made". The latter was clearly intended to serve the dual purpose of reversing, so far as existing works were concerned, the effect of *Usher v. Barlow* and of stating expressly what was clearly implicit in the Act of 1911 but had been clarified by the House of Lords in the case of *King Features Syndicate Inc. v. O. & M. Kleeman Limited* [1941] A.C. 417, namely that the question of whether a work was used or intended to be used as a model for an

industrial process was to be determined at the date when the work was made. Special provision was made by section 44 for amendment of the Act of 1949 to cater for the possible registration of works which, though not used or intended to be used as such a model when made, subsequently came to be applied for that purpose.

Thus, to find, consistently with the purpose of paragraph 8, what existing works are to be excluded from copyright, reference back has to be made to section 22 of the Act of 1911 which provided, in subsection (1):-

"This Act shall not apply to designs capable of being registered under the Patents and Designs Act 1907, except designs which, though capable of being so registered, are not used or intended to be used as models or patterns to be multiplied by any industrial process."

The background to this section is important in the context of the questions raised on this appeal. Prior to the Act of 1911 there was no single provision covering the various forms of artistic copyright. Engravings and prints were protected by a number of 18th Century statutes, works of sculpture by the Sculpture Copyright Act 1814 and paintings, drawings and photographs by the Fine Arts Copyright Act 1862, under which registration was necessary before the copyright could be enforced. Moreover, the concept of infringement by three-dimensional reproduction of two-dimensional works had not yet been developed. The philosophy behind the concept of artistic copyright during the 19th Century was that it was not conceived of as a protection for purely industrial designs. These were provided with their own code of protection in the form of a series of statutes from 1842 onwards, finally consolidated in the Patents Designs and Trademarks Act 1883, which provided for registered designs not merely a protection against copying but a short term monopoly consisting of an exclusive right to make use of the design. These provisions were amended and re-enacted in the 1907 Act. Immediately before the commencement of the Act of 1911, therefore, the protection of a design applied industrially to the manufacturer of artefacts was to be found only in the Patents and Designs Act 1907 and the provisions of section 22(1) of the Act of 1911 were clearly intended to exclude such designs from the scope of artistic copyright, the various forms of which were, for the first time, brought under a single umbrella.

The exclusion in section 22 involves the fulfilment of two conditions, that is to say, first that of being a design "capable of being registered" under the Act of 1907 and, secondly, that the designs were

actually used or were intended to be used as a model for industrial production. It is this latter requirement which emphasises the purpose of the section, that is to say, the exclusion of that type of work which is actually used industrially and which, prior to the commencement of the Act, would not have been protected apart from registration under the Act of 1907 or its predecessor.

It seems in the highest degree improbable that the framers of the Act of 1911 intended not only to confer upon designs intended for industrial reproduction and unregistered because already familiar as a result of prior publication an artistic copyright which they had not previously enjoyed but actually to make want of novelty an essential qualification for entitlement to such a copyright. There might, perhaps, have been a logic, in enacting what was intended to be a new and exhaustive code for according copyright to the various manifestations of artistic work, in excluding from the ambit of the Act designs in respect of which the author had chosen to avail himself of the enhanced protection provided by registration under the Act of 1907. There does not, however, appear to be any logic at all in according the copyright provided by the Act to works possessing all the relevant features for registration but which are denied protection for want of novelty or originality and at the same time denying it to works possessing those same features but which the author does not choose to register. To exclude from the ambit of the Act all works possessing the essential features of a "design" and which are actually brought into being for the purpose of industrial application not only makes better sense but is both consistent with the legislative background and in accordance with the statutory scheme. This certainly appears to have been the view of Lord Romer:-

"In my opinion, the only object and the only effect of section 22, sub-section 1, is to ensure that the Act shall not confer on a work which is a design within the meaning of section 19 of the Patents and Designs Act 1919, artistic copyright under the Copyright Act 1911." (*King Features Syndicate Inc. v. O. & M. Kleeman Limited* [1941] A.C. 417, 445). See also Viscount Maugham at page 427.

The view that section 22(1), in referring to designs "capable of registration", was referring simply to those works which possessed the essential characteristics needed to qualify as "designs" was similarly expressed by Clauson J. in *Pytram Limited v. Models (Leicester) Limited* [1930] 1 Ch. 639 at 647. The contrary view represented by the *obiter dictum* of Eve J. seems entirely inconsistent with the statutory scheme and was in any event based upon an

assumption of the concurrent existence, prior to 1907, of an artistic copyright which may have very well been erroneous in fact.

It is noticeable that although paragraph 8(2) of the Seventh Schedule to the Act of 1956 refers to designs capable of registration under the Act of 1949 "or under the enactments repealed by that Act", section 22(1) of the Act of 1911 refers only to designs capable of being registered under the Act of 1907, with no mention of its predecessor statutes. That Act was a consolidating enactment which merely continued a system of registration for designs applied or intended to be applied industrially. Given the manifest purpose of section 22(1) of excluding such designs from artistic copyright under the Act of 1911, there is no rational distinction to be drawn between those designs which were, when made, registrable under the earlier legislation and those which, because made after the Act of 1907 came into force, were registrable under that Act. Accordingly, to give the section a sensible meaning which accords with its object the words "designs capable of being registered under the Patents and Designs Act 1907" cannot reasonably be construed as confined solely to post-1907 designs which could actually have been properly registered under the Act of that year. That does not, of course, demonstrate conclusively that novelty was not contemplated as a *sine qua non* of exclusion from artistic copyright, but it does indicate that the words cannot sensibly be read literally and that what the legislature had in contemplation was the kind of design for which the Act of 1907 was intended to cater. Clearly section 22(1) was not and was not intended to be confined to designs actually registered. It was applicable equally to unregistered designs and the omission of the draughtsman to refer to any of the earlier legislation indicates that he thought it unnecessary to do so (because the criteria were the same in any event) and renders it likely that what was contemplated was a test of registrability of a design (as opposed to the test of intention of industrial application) which would be universal, independent of the date on which the design came into being and capable of application at whatever point of time the question arose. If this is right, it is, so far at least as unregistered designs are concerned, inconsistent with the importation into the concept of "capability of registration" of any requirement of novelty, for otherwise no design which was applied industrially but which had not been registered in fact would ever be "capable of registration". It was paragraph 8(2) of the Seventh Schedule to the Act of 1956 which related both capability of registration and intention of industrial application specifically to the date on which the design was made and which thus rendered necessary the reference to the earlier

legislation. It is, however, highly improbable that, in so doing, the draughtsman could have intended to exclude from copyright a narrower class of design than that excluded by the Act of 1911.

Reference to the provisions of the 1949 Act and its predecessors strengthens the improbability of the legislature, either in 1911 or in 1956, having intended to import the concept of novelty into the exclusion. Section 49 of the Act of 1907, repeating in substance the provisions of section 47 of the Act of 1883, which provided for the registration of a design as defined by the Act "on the application of any person claiming to be the proprietor of any new or original design not previously published in the United Kingdom". "Design" at that time was defined simply as "any design applicable to any article of manufacture or to any substance ... not being a design for a sculpture or other thing within the protection of the Sculpture Copyright Act of the year 1814". There were provisions (in sections 50 and 55) enabling designs previously published (and therefore not novel) to be registered where registration of an existing registered design was sought in respect of a different class of goods or where publication had taken place in breach of faith. Curiously there was no express provision for the cancellation of a registration except that contained in section 58 on the ground that the design was used for manufacture mainly outside the United Kingdom. It was not until the Patents and Designs Act 1919, which substituted a new definition of "design", that provision was made, in a substituted section 58, for cancellation on the ground of prior publication in the United Kingdom. The question of whether the design was new, was, therefore, originally one to be determined once and for all by the Registrar on the application for registration and it seems in the highest degree improbable that the draughtsman of section 22(1) of the Act of 1911 could have contemplated that the existence or non-existence of copyright in a particular subject-matter was to be determined by going through all the factual enquiries, possibly very extensive, which the Registrar would make upon a hypothetical application to determine whether the work should actually be registered.

Whilst it is true that the Act of 1949 replaces the previous reference to the proprietor's "claim" by the specific prohibition contained in section 1(2), this is "subject to the provisions of this Act". Again, the monopoly is conferred from the date of registration, which remains in effect even if the design in fact lacks novelty unless and until application is successfully made for cancellation under section 11 or the register is rectified under section 20. Section 4(2) contemplates the registration of a design which, though not new or

original when made, becomes capable of registration nevertheless by reason of the acquisition by the proprietor of the proprietorship of a similar existing registered design. It can hardly have been contemplated, when paragraph 8 was enacted, that in such a case the design, although properly registered under the Act and therefore entitled to the privileges conferred by registration, should nevertheless simultaneously enjoy copyright under the Act of 1956 because, at the time when it was made, it could not have been registered because of want of novelty.

In their Lordships' opinion, the Court of Appeal correctly concluded that the only sensible construction of the words "constituted a design capable of registration", having regard to the evident purpose of the statute, is that it refers to designs possessing, when they were made, those essential characteristics which qualify them as "designs". If such designs are, at that time, used or intended to be used for the purpose of industrial reproduction, they are not to qualify for copyright under the Copyright Act 1956. It follows that no copyright now subsists in Lego's pre-1973 drawings.

There is, of course, in the instant case, the further consideration that the design was in fact registered and has, for the whole of the permitted period, enjoyed the privileges conferred by registration. The Court of Appeal was disposed to consider that the Registrar's decision to effect registration demonstrated, at least *prima facie*, that the registered designs were not only "designs" but complied also with section 1(2) of the Act of 1949. However, Mr. Jacob has not sought before their Lordships to press any contention that the designs registered by Lego were in fact novel. He did, however, advance an interesting argument, rejected by the Court of Appeal, to the effect that Lego, having in fact registered the design represented by the pre-1973 drawings and having maintained the registration throughout the period provided by the Act of 1949, are now prevented by what he has called "public estoppel" from contending that the registration ought never to have taken place so as to entitle themselves to a copyright under the Act of 1956 which they had thus previously disclaimed. The proposition, as Mr. Jacob frankly admits, is a novel one and involves obvious difficulties. Having regard, however, to the view which their Lordships have formed with regard to the application of paragraph 8(2) of the Seventh Schedule, it is unnecessary to express any concluded opinion on the question.

Turning now to Tyco's cross-appeal, their Lordships observe, at the outset, that the simple but ingenious invention by Mr. Page of interlocking toy bricks was

more than adequately rewarded by patents which expired in 1954 and 1959. Unfortunately, Lego obtained further protection for what was basically the same invention by patents and designs which expired in 1975. In the result Lego secured an extended monopoly in the invention with the result that other manufacturers of toys can now effectively compete with Lego only by manufacturing interlocking bricks which interlock with the products of Lego and which must, therefore, conform with the basic shapes and dimensions of those products. Such competition has hitherto been resisted successfully by Lego on the grounds that competing bricks which are compatible with Lego bricks infringe the intellectual property rights of Lego. In these proceedings Lego base their monopoly on copyright asserted not for the bricks but for the uninspired and uninspiring engineering drawings of bricks. By attributing new periods of copyright protection to every minor alteration in the form of a brick which is recorded in such a drawing they seek to obtain, effectively, a perpetual monopoly. In *Re Coca-Cola Co's Applications* [1986] 2 All E.R. 274, at 275, the House of Lords drew attention to the undesirable practice of seeking to expand the boundaries of intellectual property rights beyond the purposes for which they were created in order to obtain an unintended and undeserving monopoly. These proceedings are a further illustration of that undesirable practice.

Tyco do not deny that the bricks which they have manufactured and marketed were produced as a result of "reverse engineering" from the 1983 Lego bricks. It is thus not in issue that Tyco have, indirectly, copied the drawings from which those bricks were manufactured, those drawings having been produced after 1st January 1973. There are some subsidiary issues relating to particular articles, but the main burden of the appeal is directed to two issues, viz.:-

- (1) Are the post-1972 drawings, which substantially reproduce the salient features of the pre-1973 drawings, entitled to copyright as original artistic works?
- (2) If so, has Tyco, in manufacturing its products (which display significant differences from the post-1973 drawings) copied a substantial part of those drawings and thus infringed Lego's copyright?

Engineering drawings are no doubt "artistic works" within the broad meaning of that expression in the Copyright Act 1956 but it has to be remembered that they are essentially no more than manufacturing instructions for a three-dimensional artefact. Their claim to artistic copyright rests solely upon the



fact that they are drawings and not upon the technical significance of the instructions by which they can be interpreted which are frequently represented only by conventional symbols or figures. In the nature of things the original drawings come to be reproduced, probably many times, and updated from time to time as minor modifications are made in design or methods of manufacture. To accord an independent artistic copyright to every such reproduction would be to enable the period of artistic copyright in what is, essentially, the same work to be extended indefinitely. Thus the primary question on Tyco's appeal can be expressed in this way: can Lego, having enjoyed a monopoly for the full permitted period of patent and design protection in reliance upon drawings in which no copyright any longer subsists, continue their monopoly for yet a further, more extensive period by re-drawing the same designs with a number of minor alterations and claiming a fresh copyright in the re-drawn designs?

Both before the trial judge and in the Court of Appeal there was an exhaustive investigation of the circumstances in which the various post-1972 drawings came into existence. With one or two exceptions, they all have the characteristic that they were modifications of and were very largely copied from pre-1973 drawings and represented an up-dating of the pre-existing designs which incorporated only small (but technically significant) modifications. The matter is best exemplified by reference to the 2 x 4 brick, the basic design of which was produced in 1968 and is represented by a drawing number 300100 dated 4th March 1968. That contains five images, that is to say, (1) a depiction of the underside of the brick showing the walls of the skirt, the tubes and a "flow-rib" rendered necessary by the shape of the moulds then used in manufacture; (2) a cross-section of the side-view of the brick showing the knobs on top, the walls of the skirt at each end and the walls of the tubes; (3) a cross-section of the end view, showing the side-walls of the skirt, the tube and the knobs; (4) a depiction of the top of the brick showing the outline of the eight knobs and (5) a representation of the side view of the brick not in cross-section. The first four of these are to a scale of 2 to 1 but the fifth is drawn to the actual size of the brick apparently for the purpose of enabling the design to be easily identified by those unskilled in reading technical drawings. In each case, save the last two, dimensions and design tolerances are indicated by figures and arrows.

The primary facts are not in dispute. This drawing formed the design for bricks manufactured up to 1971 or 1972. At that time Lego involved a new design with a thinner wall and re-drew their drawing showing thinner walls, a split in the tubes, ribs on the

inner walls to provide co-operation with the existing range of bricks and no flow-rib. The last was an important change brought about by the evolution of a different method of moulding. The thin-wall version was not a success and Lego reverted to the basic 1968 design which was modified in what were technically a number of important respects. The 1968 drawing was re-drawn in 1976, the new drawing being dated 27th April 1976 and incorporating the modifications. The way in which this was done was described by Mr. Pucek, the head of Lego's Element Construction Department, in the following passage from his evidence:-

"If I made the drawing myself it was because it was an urgent matter. So I probably took the original drawing, number three, and glued it onto my drawing table because the dimensions were indicated on that drawing and all I had to do was to put in the tolerances. Then I made the drawing, directly using ink. I never used a pencil first - I just used ink immediately to make the drawing. I made the pictures first, the outline of the element, then I put the measurements on and, finally, I added the figures."

His estimate of the time taken was half a day. In cross-examination he agreed that the same method was applied in drawing the 1976 drawing of the 2 x 2 brick and that it was basically a copy of the 1968 drawing. In relation to this, he averred in re-examination that, in principle, the 1976 drawing was a tracing of the 1968 drawing. The points of distinction between the 1968 and the 1976 drawings of the 2 x 4 brick are helpfully summarised by Clough J.A. in his judgment in the Court of Appeal (1987) 13 F.S.R. pages 476-477. These were:-

- (1) Sharp edges on outer diameter of inner fixing tubes to reduce jumping effect.
- (2) No flow-rib.
- (3) Change in point of entry of plastic from end walls to one of the knobs, consequently thickness of top wall reduced from 1.2 mm to 1.1 mm for better filling.
- (4) Change in tolerances and hence change in skirt dimension from 0.83 mm to 0.84 mm.
- (5) Adding a small radius of 0.1 mm to the corners of the brick for safety reasons.
- (6) Height of cylindrical part of inner fixing tube to base line reduced from 2.2 mm to 2.1 mm (a question of up-dating to have the same dimensions on all drawings).

(7) Inner coring out of knob has been increased from 2.5 mm to 2.6 mm in diameter.

(8) Knob radius increased from 0.2 mm to 0.3 mm.

There was a good deal of evidence, again helpfully summarised by Clough J.A., regarding the technical importance of these alterations, the most significant of which was that whereas in the 1968 brick the tubes had a radius or rounded edge of 0.4 mm on the inner, and outer diameter of the tubes, that radius was confined in the 1976 brick to the inner diameter, the edge of the outer diameter being sharpened in order to provide a longer surface for contact with the knobs of the adjoining brick and thus increase "clutch-power". Apart from this, Mr. Moller, Lego's technical witness, admitted that the differences between the two drawings were very small although he insisted on the importance of tolerances in overall functional efficiency.

The significant thing about all these changes is that they involve no substantial alteration to the drawing as such. The outline of the object depicted is, in each case, virtually identical save for the minute differences occasioned by the abandonment of the flow-rib, the depicting of radii on the edges of the knobs and the abandonment of the radius on the outer diameter of the tubes. The significant changes, however important technically, are not indicated by any substantial alteration of the drawing as an artistic work. That remains basically the same and was admittedly copied from the 1968 drawing in the same way as if it had been actually traced. The changes are indicated not by altering the drawing but by substituting for the figures shown on the original for the purpose of indicating dimensions and tolerances new figures which will constitute manufacturing instructions for those who will design the moulds from which the finished articles will be produced. It may be and no doubt is the case that that information involves important functional concepts, and even a good deal of technical research, but Mr. Jacob stresses that what this case is concerned with is not an idea or a concept but artistic copyright claimed in the drawings. Nobody draws a tolerance nor can it be reproduced three-dimensionally. What is important about a drawing is what is visually significant and the re-drawing of an existing drawing with a few minimal visual alterations does not make it an original artistic work, however much labour and skill may have gone into the process of reproduction or however important the technical significance of the verbal information that may be included in the same document by way of information or instruction.

The leading judgment in the Court of Appeal on this aspect of the case was delivered by Clough J.A. and it is Mr. Jacob's criticism of that judgment that it places great stress - indeed the whole stress - on the amount of skill and labour that went into a consideration of the technical aspects of modifications proposed to the existing design and none at all on the visual results. If, Mr. Jacob argues, it is right to categorise every copy of an existing design with no substantial alterations as an original artistic work entitling the draughtsman to copyright simply on the basis of the skill and labour involved in the copying, then copyright can be perpetuated indefinitely. It does indeed appear from Clough J.A.'s judgment that he did not draw any distinction between the skill and labour employed by the draughtsman in making an acknowledged copy and the engineering expertise required for evolving and evaluating the fresh information conveyed in a non-artistic form, information which, Mr. Jacob submits, is more properly the subject-matter of a patent application if such an application were appropriate. This appears from two passages from his judgment:-

"On the appeal no challenge has been made to the acceptance by the judge of the evidence of Mr. Moller, Mr. Pucek and relevant Lego draughting personnel on these factual details. If their evidence establishes that the production of the relevant post-1972 drawings in fact required more than negligible labour, skill and judgment, as the judge clearly concluded, then his decision is sustainable notwithstanding the evidence of Mr. Pucek agreeing that 'In principle the production of the 1976 drawing of the 2 x 2 element was a 'copy in the sense of a tracing', whatever that may be taken to mean".

"The degree of skill, labour and judgment was, in my judgment, not only more than negligible but substantial. There was no question of slavish copying here but to the basic skilled 'penmanship' of Mr. Pucek, there was added the functional or engineering design skill and experience of Mr. Pucek and those of his colleagues who made the decision to adopt the sharp edge and also the altered tolerances for the 1976 drawing to improve the functional capacity of the element. In my judgment copyright protection extends to the whole of the 1976 drawing and not merely to those parts of it which portrayed changes in relation to the 1968 drawing."

The question is, was it right not to draw any distinction between the original artistic image, which was to all intents and purposes traced into the copy, and the written design or engineering

information substituted on the copy for the purposes of re-interpreting the original artistic image? The matter can, perhaps, best be tested by asking whether, if there had been a total and literal tracing of the visual image of the 1968 design and the substitution on the copy for the original instructions of different and technically significant written instructions, that substitution would in itself warrant the conclusion that the copy had now become an original "artistic" work.

Section 3(2) of the Act of 1956 provides that "Copyright shall subsist, subject to the provisions of this Act, in every original artistic work which is unpublished ..." and "artistic work" is defined in sub-section (1) of the same section as meaning "irrespective of artistic quality ... paintings, sculptures, drawings, engravings and photographs". "Drawing" includes "any diagram, map, chart or plan" (section 48(1)). Not altogether surprisingly there is no statutory definition of the word "originality" but there is a classical statement of what is comprised in the concept of originality in the context of copyright in the judgment of Peterson J. in *University of London Press Ltd. v. University Tutorial Press Ltd.* [1916] 2 Ch.D. 601 at pages 608 and 609:-

"The word 'original' does not in this connection mean that the work must be the expression of original or inventive thought. Copyright Acts are not concerned with the originality of ideas, but with the expression of thought, and, in the case of 'literary work', with the expression of thought in print or writing. The originality which is required relates to the expression of the thought. But the Act does not require that the expression must be in an original or novel form, but that the work must not be copied from another work - that it should originate from the author."

That statement is, of course, not complete in itself because there may clearly be original work which makes use of material obtained by the author from pre-existing sources. Perhaps the most useful exegesis is to be found in three passages from the opinion of the Board delivered by Lord Atkinson in the Privy Council case of *MacMillan & Co. Ltd. v. Cooper* (1924) 40 T.L.R. 186, a case concerned with University textbooks consisting of abridgements of or excerpts from existing works with appropriate notes for students. At page 188 of the report, Lord Atkinson observed:-

"... it is the product of the labour, skill, and capital of one man which must not be appropriated by another, not the elements, the raw material, if one may use the expression, upon which the

labour and skill and capital of the first have been expended. To secure copyright for this product it is necessary that labour, skill and capital should be expended sufficiently to impart to the product some quality or character which the raw material did not possess, and which differentiates the product from the raw material."

A little later, he quoted with approval the following passage from the judgment of Mr. Justice Story in *Emerson v. Davies* (1845) (3 Story's U.S.Rep. 768):-

"The question is not whether the materials which are used are entirely new and have never been used before; or even that they have never been used before for the same purpose. The true question is whether the same plan, arrangement, and combination of materials have been used before for the same purpose or for any other purpose. If they have not, then the plaintiff is entitled to a copyright, although he may have gathered hints for his plan and arrangement, or parts of his plan and arrangement, from existing and known sources. He may have borrowed much of his materials from others, but if they are combined in a different manner from what was in use before ... he is entitled to a copyright ... It is true that he does not thereby acquire the right to appropriate to himself the materials which were common to all persons before, so as to exclude those persons from a future use of such materials; but then they have no right to use such materials with his improvements superadded, whether they consist in plan, arrangement, or illustrations, or combinations, for these are strictly his own ..."

Lord Atkinson continued:-

"This decision is, of course, not binding on this tribunal; but it is, in the opinion of the Board, sound, able, convincing and helpful. It brings out clearly the distinction between the materials upon which one claiming copyright has worked and the product of the application of his skill, judgment, labour and learning to those materials; which product, though it may be neither novel or ingenious, is the claimant's original work in that it is originated by him, emanates from him, and is not copied."

Finally, at page 190 he observed:-

"What is the precise amount of the knowledge, labour, judgment or literary skill or taste which the author of any book or other compilation must bestow upon its composition in order to acquire copyright in it within the meaning of the

Copyright Act of 1911 cannot be defined in precise terms. In every case it must depend largely on the special facts of that case, and must in each case be very much a question of degree."

In that context he cited with approval a passage from the judgment of Lord Kinloch in *Black v. Murray* (1879) (9 Rettie 341):-

"I think it clear that it will not create copyright in a new edition of a work, of which the copyright has expired, merely to make a few emendations of the text, or to add a few unimportant notes. To create a copyright by alterations of the text, these must be extensive and substantial, practically making a new book. With regard to notes, in like manner, they must exhibit an addition to the work which is not superficial or colourable, but imparts to the book a true and real value, over and above that belonging to the text."

That case was, of course, concerned with literary copyright, but there is no distinction in principle in the case of artistic copyright, although obviously the opportunities for the creation of an original work by way of compilation of existing materials are here more limited. In *British Northrop Limited v. Texteam Blackburn Limited* [1974] R.P.C. 57, the principle was conveniently summarised by Megarry J. (at page 68) as follows:-

"Copyright is concerned not with any originality of ideas but with their form of expression, and it is in that expression that originality is requisite. That expression need not be original or novel in form, but it must originate with the author and not be copied from another work ... A drawing which is simply traced from another drawing is not an original artistic work: a drawing which is made without any copying from anything originates with the artist."

The question of how far a drawing which was substantially copied from a previous drawing was itself entitled to copyright as an "original" work was raised in that case but did not fall to be decided because the previous and undoubtedly original drawing was owned by the plaintiffs and was put in evidence. *L.B. (Plastics) Ltd. v. Swish Products Ltd.* [1979] R.P.C. 551 was likewise concerned, as regards one of the drawings relied upon, with a copy from a previous original owned by the plaintiffs but not, in that case, introduced in evidence. Whether it was original or not, however, did not require to be decided because it was conceded by the defendants that it was entitled to an independent copyright. That case is of importance, however, because of

certain observations by Whitford J. at first instance which were heavily relied upon by Clough J.A. in the Court of Appeal in the instant case for the view which he expressed that the whole question of originality depended upon the amount of labour, skill and judgment which went into the drawings in respect of which copyright was claimed. At page 567 Whitford J. said:-

"The cases since the Act of 1911 have, however, I think quite plainly established that no originality of thought is needed to sustain a claim to copyright. Under copyright ideas are not protected, only the skill and labour needed to give any given idea some particular material form, for it is the form in which the work is presented that is protected by copyright. That need only be original in the sense that it is all the author's own work."

At page 568 he observed:-

"There is another aspect of originality which must be dealt with, and can conveniently be dealt with at this stage. That is the question as to whether there can be copyright in a copy. Here again it must be in my judgment a question of degree. It arises in this case because of a suggestion that some of the drawings relied upon by the plaintiffs may have been made from models first produced in three dimensions, which models, not being works of artistic craftsmanship, would not attract copyright ... There is this further point to be considered that some of the drawings undoubtedly derive in part from earlier drawings, but on the evidence I am still of the opinion that each work relied upon can claim to be a separate original artistic work attracting copyright ... The draughtsmen called on both sides made it quite plain that even where there has been a previous drawing or some sketches have been made which are in part redrawn, the making of any drawing of the kind I have to consider is a skilled business involving hours of labour, although the end result may seem relatively simple."

These observations are unexceptionable so far as they go but they must be kept in context and they are open to the criticism that they do not identify the type of skill, labour or talent involved. Originality in the context of literary copyright has been said in several well-known cases to depend upon the degree of skill, labour and judgment involved in preparing a compilation. *MacMillan & Co. v. Cooper* was such a case. So was *G.A. Cramp & Son Limited v. F. Smythson Limited* [1944] A.C. 329. Similarly in the speeches of Lord Reid and Lord Hodson in *Ladbroke (Football) Limited v. William Hill (Football) Limited* [1964] 1



W.L.R. 273 at page 277 (Lord Reid) and pages 285 and 287 (Lord Hodson) it is stressed that the amount of skill, judgment or labour is likely to be decisive in the case of compilations. To apply that, however, as a universal test of originality in all copyright cases is not only unwarranted by the context in which the observations were made but palpably erroneous. Take the simplest case of artistic copyright, a painting or a photograph. It takes great skill, judgment and labour to produce a good copy by painting or to produce an enlarged photograph from a positive print, but no one would reasonably contend that the copy painting or enlargement was an "original" artistic work in which the copier is entitled to claim copyright. Skill, labour or judgment merely in the process of copying cannot confer originality. In this connection some reliance was placed on a passage from the judgment of Whitford J. in *L.B. (Plastics) Limited v. Swish Products Limited (supra)* (at pages 568-569) where he expressed the opinion that a drawing of a three dimensional prototype, not itself produced from the drawing and not being a work of artistic craftsmanship, would qualify as an original work. That may well be right, for there is no more reason for denying originality to the depiction of a three dimensional prototype than there is for denying originality to the depiction in two dimensional form of any other physical object. It by no means follows, however, that that which is an exact and literal reproduction in two dimensional form of an existing two dimensional work becomes an original work simply because the process of copying it involves the application of skill and labour. There must in addition be some element of material alteration or embellishment which suffices to make the totality of the work an original work. Of course, even a relatively small alteration or addition quantitatively may, if material, suffice to convert that which is substantially copied from an earlier work into an original work. Whether it does so or not is a question of degree having regard to the quality rather than the quantity of the addition. But copying, *per se*, however much skill or labour may be devoted to the process, cannot make an original work. A well executed tracing is the result of much labour and skill but remains what it is, a tracing. Moreover it must be borne in mind that the Copyright Act 1956 confers protection on an original work for a generous period. The prolongation of the period of statutory protection by periodic reproduction of the original work with minor alterations is an operation which requires to be scrutinized with some caution to ensure that that for which protection is claimed really is an original artistic work.

The other important consideration which has also to be borne in mind in any case of three dimensional

copying by reverse engineering is that the plaintiff's claim to protection in the case of a non-patented industrial article not registered under the Registered Designs Act 1949 rests solely upon artistic copyright, that is to say, upon the visual image in the form of a drawing of the article from which that which is claimed to be an infringement is produced. It does not rest upon the copyright owner's inventiveness or method of working, upon the confidentiality of his instructions to his engineering or production staff or upon his literary copyright in any written communication of those instructions. Essentially artistic copyright is concerned with visual image. This is of particular importance in the instant case, which has the unusual feature that the artistic copyright claimed stems in origin from drawings which are themselves out of copyright and therefore available for copying. The post-1972 drawings do demonstrate some very minor visual deviations from the original pre-1973 drawings from which they are derived, but they are visually insignificant, with the possible exception of the omission of the radii on the outer diameters of the tubes. Taking the 2 x 4 brick as the first example, the alterations described as technically significant were (i) the sharpening of the outer edges of the tubes, (ii) the changes in tolerances and (iii) the increase in the radii on the outer edges of the knobs from 0.2 mm to 0.3 mm. Of these (i) is shown pictorially, although it is not altogether easy to discern unless the two drawings are transposed upon one another and examined closely; (ii) are not shown visually but are indicated by figures; and (iii) are shown simply by substituting for "R = 0.20" in the 1968 drawing the letter and figures "R = 0.3 + 0 - 0.05". Of the remaining alterations, (i) the elimination of the flow-rib and consequent reduction in the top wall are not claimed as having any technical materiality but result simply from the adoption of a new moulding process; (ii) the addition, for safety reasons, of a minute radius to the outer corners of the brick is indicated simply by arrows and figures superimposed on the drawings; (iii) the minute change in the height of the fixing tube in relation to the base line is again indicated by altering the figure 2.2 in the 1968 drawing to 2.1 in the 1976 drawing and showing it in a different place; and (iv) the increase in the inner coring of the knobs is, again, indicated simply by altering the figure 2.5 shown in the 1968 drawing to 2.6 in the 1976 drawing. Unless, therefore, it can be said that the addition or substitution on the sheet onto which the 1968 drawing was copied of what are essentially new manufacturing instructions constitutes a material alteration in the drawing itself, it is really impossible to sustain the proposition that the 1976 drawing constitutes, as a drawing, an original artistic work. It is simply the 1968 drawing

reproduced for the purpose of illustrating and explaining new design information. It has been suggested by Mr. Jacob that the alterations were, in any event, of a very minor nature even as design information, but their Lordships see no reason to doubt the conclusion in both the courts below that they were technically significant and were the result of considerable labour and expertise.

It is, however, submitted on behalf of Lego that the information conveyed by the figures is an integral part of the drawing and as much an artistic work as the outline of the physical features of the article depicted. In this connection reliance is placed upon a number of cases in which the significance of written material on a drawing has fallen to be considered in the context of whether that which has been translated into three-dimensional form is the drawing itself or the information contained in it. The question has arisen particularly in relation to the question whether a three-dimensional object produced from a drawing would appear to a non-expert to be a reproduction of the artistic work for the purposes of section 9(8) of the Act of 1956. It has been held, in considering that question, that an explanatory legend on the drawing in the form of words or figures is not to be ignored (see *Temple Instruments Limited v. Hollis Heels Limited* [1973] R.P.C. 15 at page 17). In other words, the hypothetical non-expert, in assessing whether the object appears to resemble the drawing, is entitled to supplement his understanding by reference to the explanatory material. The case of *L.B. (Plastics) Limited v. Swish Products Limited* was likewise one where the drawings concerned were supplemented by explanatory written material which the hypothetical non-expert was entitled to take into account in assessing whether the object made appeared to be a reproduction of the drawing. Reliance is, however, principally placed, in this context on the decision of the Court of Appeal in *British Leyland Motor Corporation v. Armstrong Patents Company Limited* [1984] F.S.R. 591 (reversed in the House of Lords on other grounds, see [1986] 1 A.C. 577). There the argument was that what had been copied was not the artistic work but the co-ordinates shown on the drawing in the form of figures. That argument was rejected. Thus, it is argued, the explanatory legend forms part of the drawing and substantial alterations to the explanatory legend are substantial alterations to the drawing.

It has, however, to be borne in mind that all these cases were concerned with a very different question from that with which this appeal is concerned. It is one thing to say that the explanatory figures and legend, because they are of value (and, indeed, perhaps essential) to an informed understanding of

the drawing, cannot be ignored in considering whether copyright in the drawing has been infringed by the making of a three-dimensional article or whether the article would appear to a non-expert to be a reproduction of the drawing. It is quite another to say that explanatory material, in the form of words or figures, which are clearly the subject of literary copyright, can confer upon an artistic work an originality which it does not possess in its own right. It has always to be borne in mind that infringement of copyright by three-dimensional copying is restricted to artistic copyright (section 48(1)). To produce an article by following written instructions may be a breach of confidence or an infringement of patent, but it does not infringe the author's copyright in his instructions. This is a distinction of crucial importance and it is well brought out in the following passage from the judgment of Buckley L.J. in *Catnic Components Limited v. Hill & Smith Limited* [1982] R.P.C. 183 at page 223:-

"I do not question the principle that in deciding whether what has been reproduced by an alleged infringer is a substantial part of the work allegedly infringed, one must regard the quality (that is to say the importance) rather than the quantity of the part reproduced (see *Ladbroke (Football) Limited v. William Hill (Football) Limited* [1964] 1 W.L.R. 273 per Lord Reid at page 276 and per Lord Pearce at page 293); but what is protected is the plaintiffs' 'artistic work' as such, not any information which it may be designed to convey. If it is said that a substantial part of it has been reproduced, whether that part can properly be described as substantial may depend upon how important that part is to the recognition and appreciation of the 'artistic work'. If an 'artistic work' is designed to convey information, the importance of some part of it may fall to be judged by how far it contributes to conveying that information, but not, in my opinion, by how important the information may be which it conveys or helps to convey. What is protected is the skill and labour devoted to making the 'artistic work' itself, not the skill and labour devoted to developing some idea or invention communicated or depicted by the 'artistic work'. The protection afforded by copyright is not, in my judgment, any broader as counsel submitted, where the 'artistic work' embodies a novel or inventive idea than it is where it represents a commonplace object or theme."

The essence of an artistic work (to adopt the words of Whitford J. in a judgment delivered on 2nd July 1987 in *Rose Plastics GMBH v. William Beckett & Co.*

(*Plastics*) Limited, of which their Lordships have seen only an approved transcript) is that which is "visually significant"; and Mr. Jacob asks, forensically, what is there in the 1976 drawings which is visually significant and which was not contained in and directly copied from the 1968 drawings? With deference to the Court of Appeal and accepting both the importance of and the skill involved in producing the design information transmitted to the mould makers by the revised figures substituted on the drawing, their Lordships can see no alteration of any visual significance such as to entitle the drawing, as a drawing, to be described as original.

In the argument before their Lordships the 2 x 4 brick was taken as the exemplar because, it was said, there was no significant distinction between that case and the other bricks in the Lego range. In deference to the argument of Mr. Rogers and to the judgment of Clough J.A., where the items were dealt with individually, these items should be briefly considered. It will be convenient to take first three elements which were treated by Clough J.A. as broadly following the same pattern. These are:-

(i) The 1 x 2 brick. The drawing from which the 1983 version of this was manufactured was also produced in 1976. Again it was admittedly copied from a 1968 drawing via an intermediate drawing produced in 1972. It is drawn to a different scale but it was accepted in the evidence that scale was of no materiality. Apart from small differences in tolerance and in the width of the central pin, which are indicated by the insertion of revised figures, there is no significant variation from the 1968 drawing.

(ii) The one knob brick. There is no visual difference between the 1968 and 1976 drawings, the only modifications being in tolerances and an increase in the inside width from 4.83 mm to 4.84 mm.

(iii) The 1 x 4 brick. This again was based on a 1976 drawing derived from a drawing in 1968. The 1976 drawing, although drawn to a scale of 5 to 1 instead of 2 to 1 appears, to all intents and purposes, to be merely a scaled-up version of the 1968 drawing with a small variation in dimension and tolerance indicated by figures and the addition of a one degree taper on the internal pins. Again, this is merely the 1968 drawing reproduced and adapted to illustrate new manufacturing and design instructions.

In relation to these three elements, all of which were drawn by the same draughtswoman, Hanne Fabrin, the considerations which led Clough J.A. to hold that they were original drawings entitled to copyright,

although clearly copied in each case from the 1968 original, were (i) the technical skill of Miss Fabrin and the time taken by her in producing the copy, (ii) the technical skill of Mr. Pucek in instructing her in the dimensions and tolerances to be shown on the drawings and (iii) in the case of the 1 x 4 brick, the fact that the middle cross-sectional view was enlarged and that a second cross-sectional view shown in the 1968 version was omitted. For the reasons already given, their Lordships cannot agree that these three matters were sufficient to establish originality in the drawings as artistic works.

The 2 x 2 brick is almost a precise parallel of the 2 x 4 brick, save that in this case an intermediate drawing was produced in 1973 which was to a larger scale than the 1968 drawing and showed some modifications. The 1976 drawing, however, preserved the scale of the 1973 drawing but otherwise reverted in all its essential features to the 1968 drawing. The only differences of any significance are in the depiction of a radius only on the inner diameter of the tube and the substitution of altered figures in respect of one or two of the dimensions and tolerances. It was this drawing which Mr. Pucek in his evidence accepted as "in principle" a tracing but Clough J.A. accorded it originality because of the functional significance of the substituted design information and the elimination of the outer radius on the tube. Their Lordships do not consider that this drawing can be differentiated from that of the 2 x 4 brick. It cannot, therefore, properly be regarded as an original drawing entitled to copyright.

In respect of two further elements, the 1 x 3 brick and the 3 x 4 roof-tile there was no 1968 drawing. The former was first produced in 1971 when Lego were manufacturing thin-walled bricks. The first drawing was made in 1973, but it is important to note that Lego have not claimed that there has been any infringement of the copyright in this drawing if any such exists. Their case is founded entirely upon the 1976 drawing and the question is whether originality can be claimed for that drawing. It was admittedly copied directly from the 1973 drawing and is, in substance, visually indistinguishable from it. Much of the design information is the same and such material alterations as there are consist only in alterations to the original figures. As regards the 3 x 4 roof-tile, this was first drawn in 1971 as a thin-walled version and re-drawn in 1976. Again the 1976 drawing was copied from it by Miss Fabrin and again the visual image, whilst not identical as regards the depiction of all features, is substantially indistinguishable, the important modifications of thickness, tolerance and radii being shown by means of arrows and figures. An enlarged

section of the wall of the fixing tube has been added in order to illustrate the radius on the inner diameter. Again, therefore, what is claimed as conferring originality on what are admittedly copies is (1) the inclusion of additional or different design information and (2) the skill and time of the draughtsman in producing the copy and inserting the information upon it.

Turning now to the Duplo range, the position is similar. In the case of the Duplo 2 x 4 brick Clough J.A. in his judgment summarised Mr. Pucek's evidence as to how the original drawing was made in 1971. A revised drawing, again produced by copying, was made in 1973 and up-dated in 1977. There were several amendments made necessary by improvements in the moulding process - in particular the introduction of a flow-rib running laterally. Dimensions were added to indicate the flow-rib, the dimensions of ribs between the walls and the tubes were altered and the depth of the hollow knobs was increased. A small depression in the top surface was also shown, this being rendered necessary by the moulding process; and a ground surface on the underside of the brick is indicated by stipling. Mr. Pucek and the subsequent draughtswoman, Mrs. Jensen, gave evidence of the time taken, which was substantial, and, as Clough J.A. observed, the evidence clearly sufficed to establish the application of more than negligible skill, labour and judgment. But that, with respect to him, was not the right question. The amendments no doubt embodied valuable technical concepts and improvements but the question was whether the skill and labour was directed to the production of an original artistic work rather than the insertion of manufacturing instructions into an existing artistic work.

The same applies to the 2 x 2 Duplo brick, the 1973 and 1976 drawings of which were re-drawings from previously existing drawings. Again there seem to have been no significant alterations apart from the insertion of different or additional dimensions or tolerances. It took Mr. Pucek about a day to make the drawing in 1973. Clough J.A. observed that "he therefore contributed at least his more than negligible skilled penmanship and labour to the making of the drawing which thereby acquired originality". Similarly in relation to the re-drawing in 1976, which was carried out by Miss Fabrin and involved showing an increase in the height of the knobs by substituting the measurement 4.6 mm for the previous 3.6 mm and the introduction of four wings on the inner tubes. Her evidence was that the production of the amended drawing would have taken about four hours. The Court of Appeal was of the view that the combination of her and Mr. Pucek's skill and labour established originality. In their Lordships' opinion the case of these two elements is

the same as that of the Lego elements. There may have been and no doubt was a great deal of labour and skill involved in the evolution of the right dimensions and tolerances, the concept of the best clutch power, and the actual process of copying from the original drawing and inserting onto the copy the figures and symbols resulting from the technical calculations, but the artistic work remained the original artistic work without any substantial visual alteration. In their Lordships' view, Lego's claim for infringement of copyright in their post-1972 drawings fails as regards such of those drawings as were copied either from drawings made prior to 1973 or from other drawings in respect of which no infringement has been claimed. It is not sufficient to confer originality upon them that labour and skill was employed in the process of copying them or in the addition to them of fresh written manufacturing instructions. The claim in the action is for infringement of artistic copyright only, not a claim for patent infringement or for the poaching of confidential design information.

It is admitted in fact that the Tyco brick, although reproduced from Lego's 1983 bricks and thus from the 1976 drawings from which those bricks were manufactured, more closely resembled the 1968 drawing. Tyco's alternative submission is that this demonstrates that in fact they did not reproduce any substantial part of the 1976 drawings, even on the supposition that those drawings can claim originality, and so did not infringe. Their Lordships see considerable difficulty in the way of such a submission if it is once established that the 1976 drawings were original artistic works entitled to copyright in their own right. In the light of the conclusion at which their Lordships have arrived, however, it is unnecessary to pursue this point. That conclusion also renders it unnecessary to determine the interesting question of estoppel in relation to such of the elements as were previously registered as designs under the 1949 Act and a further point argued by Mr. Jacob as regards the operation of section 10 of the Act of 1956.

There remains, therefore, to be dealt with only a point raised by Mr. Jacob and determined by the Court of Appeal in Lego's favour in relation to section 9(8) of the Act. This arises in relation to two further items in the Lego range, namely the Duplo 6 x 12 base-plate and the trailer wheel. Section 9(8) provides:-

"The making of an object of any description which is in three dimensions shall not be taken to infringe the copyright in an artistic work in two dimensions, if the object would not appear, to persons who are not experts in relation to



objects of that description, to be a reproduction of the artistic work."

It is not in dispute that the original wheel proposed to be manufactured by Tyco would have been an infringement of Lego's drawing. It was, however, modified to incorporate certain alterations which make it less like the Lego wheel. Both the trial judge and the Court of Appeal found that the modified version was a substantial reproduction of the Lego drawing and granted an injunction in respect of it. There are obvious differences on casual inspection. The Tyco wheel has a different wall thickness, it has no radius on the inside and there is a different design of axle entry. Similarly in relation to the base-plate, Tyco have produced a version which is smaller in size than the Duplo plate and incorporates certain differences in the number of connectors to the tubes. Additionally, the knobs are not hollowed out as the Lego ones. It is clear, however, that Tyco produced their base-plate simply by taking a section of the Duplo plate and copying the appropriate dimensions from it and the question is not whether the end products display differences, but whether the finished article would, to the non-expert, appear to be a reproduction of Lego's drawings. The defence under section 9(8) in a case of acknowledged copying is notoriously difficult to establish, for it starts from a position that the object does in fact reproduce a substantial part of the drawing, the only question being whether it would appear to the non-expert that it does. The trial judge was clearly of the opinion that both elements did appear to reproduce the Lego drawings and, it seems, so were Clough and Fuad JJ.A., though Sir Alan Huggins V.-P. entertained some doubts. Their Lordships, having inspected the articles and the drawings, agree with the trial judge that the defence is not made out in relation to these two articles.

In the result their Lordships will humbly advise Her Majesty that Lego's appeal should be dismissed and that Tyco's cross-appeal should be allowed in respect of all the elements enumerated in schedule B annexed to the order of the Court of Appeal save for items (L) and (M) in respect of which the cross-appeal should be dismissed and the order of the Court of Appeal should stand. In the context of the totality of the subject-matter of the appeal, those two items are of relatively trifling significance and the main argument, both on the appeal and the cross-appeal, having been devoted to issues upon which, in the event, Tyco have succeeded, Lego must pay Tyco's costs both before the Board and in the courts below.

