



## Creativity for Feist

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## **Creativity for *Feist***

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*Abstract.* This paper develops an understanding of creativity to meet the requirements of the decision of the Supreme Court of the United States in *Feist v. Rural* (1991). The inclusion of creativity in originality, in a minimal degree of creativity, and in a creative spark below the level required for originality, is first established. Conditions for creativity are simultaneously derived. Clauses negatively implying creativity are then identified and considered.

The clauses which imply creativity can be extensively correlated with conceptions of computability. The negative of creativity is then understood as an automatic mechanical or computational procedure or a so routine process which results in a highly routine product. Conversely, creativity invariantly involves a not mechanical procedure. The not mechanical is then populated by meaning, in accord with accepted distinctions, drawing on a range of discourses. Meaning is understood as a different level of analysis to the syntactic or mechanical and also as involving direct human engagement with meaning. As direct engagement with meaning, it can be connected to classic concepts of creativity, through the association of dissimilars. Creativity is finally understood as not mechanical human activity above a certain level of routinicity.

Creativity is then integrated with a minimal degree of creativity and with originality. The level of creativity required for a minimal degree is identified as intellectual. The combination of an intellectual level with a sufficient amount of creativity can be read from the exchange values connected with the product of creative activity. Humanly created bibliographic records and indexes are then possible correlates to or constituents of a minimal degree of creativity. A four stage discriminatory process for determining originality is then specified.

Finally, the strength and value of the argument are considered.

### **Introduction**

Creativity has been discerned as highly significant and fundamental to the seminal decision of the Supreme Court of the United States in *Feist v. Rural*, which affirmed originality and a minimal degree of creativity as essential for copyrightability in compilations (*Feist Publications, Inc. v. Rural Tel. Service Co., Inc.*, 1991). An understanding of creativity, applicable to the decision, has defied explicit development in the now more than twenty years since the publication of the decision (Clifford, 2004; Ginsburg, 1992; Greetham, 1996; Narayanan, 1993-1994; Nimmer, 2001; Nimmer and

Nimmer, 1978-2010; Polivy, 1997-1998; Raskind, 1991–1992; Resnik, 2003; Strong, 1994; Trosow, 2004-2005, p.109; VerSteeg, 1995, 2007). The decision implies an understanding for creativity by clauses with an antithetical character, most significantly by ‘so mechanical or routine as to require no creativity whatsoever’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), which would imply creativity as neither so mechanical nor so ... routine. The purpose of this paper is to develop an explicit understanding of creativity, from those clauses, which fully meets the requirements of the decision.

The topic will be approached progressively. The relation of creativity to originality and to a minimal degree of creativity will first be established, as the precise sense in which creativity is both significant and fundamental has not been fully articulated. Conditions for creativity and a minimal degree of creativity will be simultaneously derived from the decision. Next, an understanding of creativity will be generated from the antithetical clauses which negatively imply it and the understanding will be substantiated and developed. Creativity, as understood, will then be reintegrated with a minimal degree of creativity and originality. Finally, we will conclude with a reflection on the strength of the argument. All readings of both the semantics and grammar of the decision are ordinary language, unless otherwise indicated.

We can begin with creativity in the decision.

### **Creativity in *Feist***

Originality is required for all works.

‘a compilation, *like any other work*, is copyrightable only if it satisfies the originality requirement ... the originality requirement *applies to all works*’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.357) [emphases added].

A statement specifying what original means is given once, and only once, within the opinion. As a unique occurrence, the statement must be received as exhaustive of the meaning of original.

‘Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.345)

The qualification immediately following ‘[o]riginal’, ‘as the term is used in copyright’, indicates a meaning specific to copyright. ‘[O]nly’ in ‘means only’ (p.345) must be read rigorously as, entirely restricted to. The ‘and’ (p.345) connecting ‘independently created’ (p.345) and ‘at least some minimal degree of creativity’ (p.345) indicates that both independent creation and at least some minimal degree of creativity are essential to originality. The meaning of original is, then, specific to copyright, but not technical, and can then be understood as a more precise instantiation of an ordinary discourse sense, consistently with the need to be applicable to all works. ‘[A]t least’ in ‘at least some minimal degree of creativity’ (p.345) indicates a lower threshold for a minimal degree of

creativity. Crucially, originality is solely constituted by independent creation and at least some minimal degree of creativity (see Figure 1). <Insert Figure 1 here >

Independent creation is parenthetically explicated, at its introduction.

‘the work was independently created by the author (as opposed to copied from other works)’  
(Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.345)

Creativity is not directly included in any of the formulations for independent creation (see Figure 2). <Insert Figure 2 here >

‘[A]t least some minimal degree of creativity’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.345) would include a minimal degree of creativity. A minimal degree of creativity disaggregates into a required level and sufficient amount.

‘some minimal degree of creativity. To be sure, the requisite level of creativity is extremely low; even a slight amount will suffice.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.345) [citations omitted].

A minimal degree of creativity is then, firstly, constituted by a required level of creativity, and, secondarily, by an amount of creativity at that level. The level of creativity required must be knowable, from its explicit specification as one of the requirements of a test for originality.

‘Originality requires ... that the author make the selection or arrangement independently ... and that it display some minimal level of creativity. Presumably, the vast majority of compilations will pass this test.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.358-359)

The combination of level and amount for a minimal degree of creativity should also be discernible, to fulfill the requirements of the test. The further references which can be assimilated to a minimal degree of creativity and which include the words *creativity* and *creative* link them only to terms which can be understood as corresponding to ‘minimal degree’, such as ‘modicum’, ‘component’, or ‘minimal spark’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.345, 346, 362, 363) (see Figure 3) <Insert Figure 3 here >. *Creativity* and *creative* are not then further explicated or linked to semantically similar terms, within the references to a minimal degree of creativity. The different terms, *creativity* and *creative*, are revealed, on inspection, to be equivalent in their inclusion of creativity<sup>1</sup> but the predominance of *creativity* (five as contrasted with three mentions) implies a concern with the substantive phenomenon of creativity.

Creativity would then be included in a minimal degree of creativity and would also be a mediated constituent of originality, from the inclusion of a minimal degree of creativity within originality (see Figure 4) <Insert Figure 4 here >. From its inclusion in a minimal degree of creativity, creativity must give rise to level and to level and amount in combination. It must also be sufficiently knowable to be incorporated into the possibility of obtaining knowledge of the level of creativity required for a minimal degree of creativity. From its inclusion within originality, it must be applicable to all works. Such

works would exhibit very high and historically rare levels of creativity and creativity must then also comprehend a range from the minimal to the very highest level.

A creative spark below the level required for originality is distinguished (see Figure 5) <Insert Figure 5 here>.

‘There remains a narrow category of works in which the creative spark is utterly lacking or so trivial as to be virtually nonexistent. . . . Such works are incapable of sustaining a valid copyright.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359)

‘There remains’ (p.359) indicates that the creative spark ‘so trivial as to be virtually nonexistent’ begins immediately after a minimal degree of creativity, without a significant interval. The extended characterization of below the required level of creativity in selection, coordination, and arrangement (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.362-363), forms the basis for the conclusion that, ‘the names, towns, and telephone numbers copied by Feist were not original to Rural’ (p.362). The characterization constitutes the strongly predominant part of a passage immediately preceding the conclusion to the opinion, from [t]he question remains’ (p.362) to ‘[w]e conclude that’ (p.363). It can then be understood as highly significant, technically as the *ratio decidendi*, or rationale for the decision, as its crux or crucial turning point.

The ‘creative spark’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) below the level of creativity required for originality contains a further distinction. The creative spark ‘so trivial as to be virtually nonexistent’ (p.359) can be differentiated from the creative spark ‘utterly lacking’ (p.359) (see Figure 6) <Insert Figure 6 here >. The creative spark ‘so trivial as to be virtually nonexistent’ (p.359) can be understood as a real level and amount of creativity and would include creativity. The creative spark ‘utterly lacking’ (p.359), by contrast, would exclude creativity in a positive sense. Creativity as included in and as excluded from the creative spark can be understood as identical with each other. The concern with the substantive phenomenon of creativity established for a minimal degree of creativity is sustained<sup>2</sup>.

The clauses corresponding to ‘utterly lacking’ (p.359) form the thematically and quantitatively, understood as the number of references, dominant part of the creative spark below the level of creativity required for originality (see Figure 6). They are then the major part of the most significant component of the judgment.

The clauses can be read to imply, as well as to exclude, creativity (see Figure 7) <Insert Figure 7 here >. ‘[U]tterly lacking’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) can be read to imply, *creativity fully present*, as its antithesis or complement. ‘[N]o creativity whatsoever’ (p.362) implies *some creativity at all*, as its own antithesis. It then indicates an immediate transition from the absence of creativity to creativity. The clause also explicitly includes the absence of creativity—‘no creativity’ (p.362)—which had been strongly implied by, ‘utterly lacking’ (p.359). ‘[D]evoid of even the slightest trace of creativity’ (p.362) implies, *with the slightest trace of creativity*. It can then be similarly understood to ‘no creativity whatsoever’ (p.362) as indicating an immediate transition from the absence of creativity to creativity. The reference to a

product in ‘end product ... devoid of even the slightest trace of creativity’ (p.362) adds the significant possibility of reading the absence of creativity from the product, from the ‘trace’ left by processes of selection, coordination, and arrangement. The consecutive clauses are then mutually complementary. The final clause, ‘nothing remotely creative’ (p.363) implies creativity as remote from its own antithesis, as *something fully creative*. The initial clause and its implication, of *creativity fully present*, then comprehends all the subsequent clauses and their implications of, *some creativity at all, with the slightest trace of creativity*, and *something fully creative*.

Combining the references to the minimal degree of creativity required for originality and to the creative spark below the requisite level of creativity is informative (see Figure 8) <Insert Figure 8 here >. The clause, ‘more than a *de minimis* quantum of creativity’ (p.363) can be read as a whole to refer to a minimal degree of creativity, and a part of it, ‘a *de minimis* quantum’ (p.363), to correspond to the creative spark ‘so trivial as to be virtually nonexistent’ (p.359), with ‘creativity’ (p.359) as a common term. The strongly implied equivalence between creativity in a minimal degree of creativity and in the ‘creative spark ... so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) is, then, confirmed. The totality of the combined references includes all instances of the terms *creativity* and *creative*, in the direct text of the decision (see Figure 8). The references are thereby exhaustive of creativity, for the purposes of the decision.

The treatment of creativity, within the exhaustive set of references, contrasts significantly with other aspects of the decision. Creativity is nowhere assigned a meaning specific to copyright, unlike originality, and nor is it explicated, unlike independent creation. It must then be understood to default to consistency with ordinary discourse. Creativity is not disaggregated, in contrast to a minimal degree of creativity. It is not connected to semantically similar or overlapping terms, contrasting with other parts of the judgment, such as the characterization of the absence of creativity, as ‘an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363). An understanding of creativity cannot then be obtained by referral to subordinate or related terms. The implication of creativity from the ‘creative spark ... utterly lacking’ (p.359) then emerges as the only means for generating an understanding of creativity, from within the decision.

The conditions derived for creativity from its inclusion in a minimal degree of creativity, in originality, and the creative spark ‘so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359), can be combined. Creativity must occupy the level ‘so trivial as to be virtually nonexistent’ (p.359), the ‘extremely low’ level required for a minimal degree of creativity, and the highest possible level. It should be knowable, applicable to all works, and consistent with ordinary discourse.

## Clauses implying creativity

The common lack of copyrightability for the creative spark ‘utterly lacking’ and ‘so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) legitimates consideration of the substantive terms of their characterization in selection, coordination, and arrangement as a whole.

‘so mechanical or routine’

‘entirely typical ... garden-variety ... end product’

‘could not be more obvious ... the most basic information’

‘dictated by state law’

‘an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course ... practically inevitable ... time-honored tradition’

(Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.362–363)

‘[S]o mechanical’ obtains priority from its initial position. ‘[M]echanical’ and all the other constituent terms of the characterization can all be understood in their central ordinary discourse senses (Warner, 2010a). The overall effect of the meanings of the substantive terms delineating the creative spark without the level of creativity required for copyrightability, is analogous to a concept of compelling modern significance, to computability.

‘It seems that this importance [of Turing’s computability] is largely due to the fact that with this concept one has for the first time succeeded in giving an absolute definition of an interesting epistemological notion, i.e., one not depending on the formalism chosen. In all other cases treated previously, such as demonstrability or definability, one has been able to define them only relative to a given language, and for each individual language it is clear that the one thus obtained is not the one looked for.’ (Gödel, 1946/2004, p.84).

The analogy rests primarily on an overall, or gestalt, effect of correspondence (Warner, 2010b, p.2326).

The analogy gives a basis for a highly specific and definite correlation. ‘[M]echanical’ in ‘so mechanical’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362) correlates with mechanical in a *mechanical* procedure, a classic term closely equivalent in scope to algorithm. The correlation rests on an identity in expression, on the common derivation of mechanical from ordinary discourse, the adoption and retention of the ordinary discourse meaning, which includes both a human acting mechanically and the operations of a machine, the implication of an activity or process, and invocation of the process by denotation (Warner, 2010b, pp.2327-2328). ‘[S]o’ in ‘so mechanical’ confers intensity upon ‘mechanical’. The intensity is supported and confirmed by the connotations of the subsequent clause, ‘dictated by ... law’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362). ‘[S]o mechanical’, as a whole, can then be correlated with the absolute or most intense form of the computational process, with an automatic mechanical procedure. The sequence of clauses with a historical resonance—‘an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course ... practically inevitable ... time-honored tradition’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.362-363)—also correlates with the absolute and the natural in the theory of computability, which is primarily concerned

with automatic processes, reinforcing the correlation (Warner, 2010b, pp.2328-2330). The correlation of ‘so mechanical’ (p.352) with an automatic mechanical procedure has been regarded as proven beyond reasonable doubt (Warner, 2010b, p.2334). The correlation and its directly supporting elements exist exclusively within the clauses corresponding to the ‘creative spark ... utterly lacking’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359).

The correlation can be held in mind while a full account of creativity ‘utterly lacking’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) is derived from the decision. The majority of the substantive terms within the delineation of creativity utterly lacking qualify processes and are extensive in number and scope.

‘so mechanical or routine’

‘dictated by state law’

‘an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course ... practically inevitable ... time-honored tradition’

(Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.362–363)

The verbal ‘or’ linking ‘so mechanical’ with ‘routine’ can be read as a Boolean or logical OR, as *so mechanical OR so ... routine*. The reading also applies to the clauses as a whole, when the sense of the other terms is subsumed, for analytical purposes, under ‘so mechanical or routine’ (Warner, 2010a, pp.823-830). A product is explicitly designated as that from which the absence of creativity can be read, as an ‘entirely typical ... garden-variety ... end product, devoid of even the slightest trace of creativity’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362). Creativity can then be understood to reside in processes but to be embodied in, and readable from, a product, corresponding to a logical AND relation. An understanding of creativity utterly lacking can then be formulated.

A compilation has not the slightest trace of creativity if, and only if, it is an entirely typical or garden-variety end product constructed by a so mechanical or so ... routine process.

The formulation for the antithesis to creativity explicitly incorporates the meaning of the two related clauses, of ‘so mechanical or routine as to require no creativity whatsoever’ (p.362) and of an ‘end product ... devoid of even the slightest trace of creativity’ (p.363), and then applies, in the first instance, to those clauses, but should be consistent with the further clause, ‘nothing remotely creative’ (p.363), from the potential subsuming of the meaning of its connected substantive terms within the scope of ‘so mechanical or routine’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362; Warner, 2010a, p.826). The reading of the relation between the absence of creativity for compilations and the substantive terms of the characterization as, *if, and only, if*, is justified by the comprehensive capturing of all the delineated elements within the antithesis to creativity, within a set of references identified as exhaustive of creativity. The qualification of a process by ‘so mechanical or routine’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362) is raised to an explicit designation in the formulation, as, a so mechanical or routine *process*.



The correlation can now be recalled and *automatic mechanical procedure* substituted for ‘so mechanical’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), in the formulation for the antithesis to creativity.

A compilation has not the slightest trace of creativity if, and only if, it is an entirely typical or garden-variety end product constructed by an automatic mechanical procedure or so ... routine process.

The substitution of correlated external standard adds a strongly intersubjective element to the formulation, in a classic process of legal advance (Holmes, 1881/1991, pp.110-111).

### **The implication of creativity and creativity**

We can then transform the statement of the antithesis to creativity, by the negation of the clauses connected by *if, and only, if*, to yield a positive statement of creativity.

A compilation has the slightest trace of creativity if, and only if, it is not an entirely typical or garden-variety end product constructed by an automatic mechanical procedure or a so ... routine process.

The use of negation to derive the positive statement of creativity is legitimated by the antithetical character of ‘utterly lacking’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) and by the specific implications of the two clauses incorporated directly into the formulation, by *some creativity at all* as implied by ‘no creativity whatsoever’ (p.362) and *an end product with the slightest trace of creativity* implied by an ‘end product ... devoid of even the slightest trace of creativity’ (p.362). Negation is also a widely accepted and deeply historically rooted technique of verbal and then more formally logical reasoning (Bochenski, 1961; Kneale and Kneale, 1962). In this instance, it is also compellingly simple.

A comprehensive collection of all the possible combinations for creativity can be displayed with a vertical ordering corresponding to the relative significance of elements to the opinion, descending from ‘so mechanical’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362) or an automatic mechanical procedure to ‘garden-variety’ (p.362) (see Table 1) <Insert Table 1 here >, to reveal the overall distribution of the creative and the not-creative. The creative is concentrated in a major sequence of five rows at the head of the table, followed by a block of the not creative interrupted by two combinations for the creative. Creativity and the not-creative are then generally well separated from each other and strongly internally grouped, suggestive of the robustness and plausibility of the analysis.

The two interleaved combinations for the creative constitute exceptions to the overall pattern of distribution and could disturb the robustness of the analysis. The first encountered, on a downward reading of the table, is where an automatic mechanical procedure is used to construct an end product which is not entirely typical or garden-variety. The automatic mechanical procedure is not ‘so ... routine’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), which could be novel or rarely used. It would then still be closely proximate to the non-mechanical activity normally involved in

the production of significant automatic mechanical procedures. The combination can then be regarded as analogous to the highest placed combination for the creative, from which it differs by the one element of ‘so mechanical’ (p.362), and regarded as substantively involving a not automatic mechanical procedure. The next met embodies a tension between a so mechanical and highly routine process and the absence of routinicity from the product. It could then be understood as formally possible and combinatorially produced but *a priori* unlikely. The possibility of disturbance to the analysis can then be reduced, both from the analogy of the first interleaved combination with an instance of the creative within the overall pattern and by recognizing the unlikely character of the second combination.

The possibility of further reduction of the formulation for creativity, to obtain a simpler or sharper differentiation of the creative from the not creative, can be pursued. The classic approach would be to search for a single element, from an automatic mechanical procedure, ‘so ... routine’, ‘entirely typical’, or ‘garden-variety’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, pp.362-363), or a subset of those elements, to discriminate the outcomes, the creative and the not creative, from each other. No single element or subset of elements discriminates in this way, even when the interleaved combinations are, respectively, assimilated and excluded. A simpler or sharper conception of creativity cannot then be obtained by further formal transformations on the identified elements.

The elements which constitute the creative can themselves be considered. The creative in the major sequence is both not ‘so ... routine’ and ‘so ... routine’, not ‘entirely typical’ and ‘entirely typical’, not ‘garden-variety’ and ‘garden variety’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), but invariantly not an automatic mechanical procedure (see Table 1). The only invariant element then is a not automatic mechanical procedure. The interleaved combinations can be brought into accord with this invariance, in contrasting ways: the first, understood as substantively involving a not automatic mechanical procedure, can be positively assimilated; the second, fully mechanical but identified as unlikely, can, provisionally, be discounted. An automatic mechanical procedure also characterizes some combinations for the not creative, as the impossibility of further reduction by formal transformations had implied. It must then be understood as invariant within, although not distinctive of, creativity.

For further substantiating and developing creativity, then, we can focus on the not mechanical.

### **The not mechanical and meaning**

The not mechanical can be populated, from an established antithesis to an automatic mechanical procedure, specifically a contrast with *meaning*.

Classic, although rather neglected, discussions of models of the theory of computability and models of the computational process have explicitly registered the exclusion of meaning from the models. The logician, Kurt Gödel, developed a distinction of mechanical processes from meaning.

‘in the proofs we make use of insights, into these mental constructs, that spring not from the combinatorial (spatiotemporal) properties of the sign combinations representing the proofs [which are employed in mechanical procedures], but only from their *meaning*.’ (Gödel, 1958/1990, p.241) [emphasis in original]

The emphasis—‘*meaning*’—is indicative of the significance attached to meaning as contrasting with the ‘combinatorial (spatiotemporal) properties of the sign’ (Gödel, 1958/1990, p.241) fundamental to mechanically conducted proofs. Gödel reiterates the contrast in a subsequent publication, which refers to and cites the previous paper.

‘the question of whether there exist finite *non-mechanical* procedures not equivalent with any algorithm, has nothing whatsoever to do with the adequacy of any definition of ‘formal system’ and of ‘mechanical procedure’. ... such as those which involve the use of abstract terms on the basis of their meaning.’ (Gödel, 1964/2004, p.72). [emphasis in original]

A correspondence between non-mechanical procedures and the use of terms on the basis of their meaning is indicated. The emphasis, here given to ‘*non-mechanical*’ (Gödel, 1964/2004, p.72), indicates the intensity of the contrast between the mechanical and meaning. The exclusion of meaning from a mechanical procedure or algorithm, from the automatic computational process, would be generally accepted, if seldom emphasized, by relevant scholarly communities.

The population of the non-mechanical by meaning can be confirmed and reinforced by replacing the classic term, *mechanical*, with an alternative, and now widely accepted, term, which has a highly similar, if not identical scope, in a computational context, with *syntactic*.

‘in the realm of formal systems ... the intuitive notion of ‘effective process’ [can be identified with] with the purely syntactic idea of string processing.’ (Rosen, 1995, p.529)

Syntactic is embedded in a different set of contrasts and its customary complement or opposite would be *semantic*, corresponding to Gödel’s ‘meaning’. Semantic would also normally be contrasted immediately with syntactic, in the sense that an intervening territory or intellectual space is not conceived. The distinction between syntactic and semantic is embedded in ordinary discourse, adding wider diffusion, and the implication of the robustness needed to survive wider diffusion, to Gödel’s more deliberate theoretically formulated contrast between mechanical procedures and meaning.

A distinction of syntax from semantics was also made in a well known and seminal critique of strong artificial intelligence (Searle, 1980). Formal symbol manipulations have a syntax but not a semantics and intelligence could not then be attributed to computers (Searle, 1980). The impact of the critique, as revealed in its subsequent reception, may be partly derived from its resonance with the ordinary discourse distinction of syntax from semantics.

The field of information theory, which has some analogies with the theory of computability, through its modeling of an information technology process, although of

signal transmission rather than of computation, also excludes meaning from direct consideration, as a founding assumption.

‘The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point. Frequently the messages have *meaning*; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem.’ (Shannon, 1948/1993, p.5) [emphasis in original]

The emphasis given to meaning indicates the significance of its exclusion and ‘*meaning*’ is directly correlated with ‘semantic’ (Shannon, 1948/1993, p.5). In a later exposition of information theory, intended for wider public dissemination, the exclusion of meaning is reiterated.

‘Before we can consider how information is to be measured it is necessary to clarify the precise meaning of ‘information’ from the point of view of the communication engineer. ... In any case, meaning is quite irrelevant to the problem of transmitting the information.’ (Shannon, 1968/1993, pp.213-214)

The exclusion of meaning is again introduced as a founding, and preliminary, assumption. The exclusion of meaning from considerations of signal transmission in information theory corresponds to the contrast of mechanical procedures with meaning in computability, supporting the significance and fundamental nature of the distinction.

Meaning also has a specific application to compilations. The fundamental aim for compilations, across a historically and synchronically wide range of compilations, has been conceived as collocating common or related meanings, irrespective of their particular form of expression in the language of discourse. The involvement of meaning then includes a central form of activity for compilations.

The population of the not mechanical by meaning can admit the assimilation of the first interleaved combination for creativity to the major sequence. Activity in the construction of a mechanical procedure has been understood as human activity on meaning (Weizenbaum, 1976/1984). The first interleaved combination, in which creativity is immediately connected with a mechanical procedure but was revealed to have a deeper and substantive connection with non-mechanical activity, then also involves activity on meaning. It can then continue to be assimilated to the major sequence.

In summary and synthesis, then, meaning is understood as contrasting with the mechanical in a number of partly independent, although also interconnected, domains, in the theory of computability, ordinary discourse, a critique of artificial intelligence, and information theory. The contrast of syntax with semantics is conceived as fundamental, significant, and intense and as immediate, without intervening territory. We therefore have very strong warrant for taking *meaning* as the immediate population of the not mechanical.

## Meaning and direct engagement with meaning

A dual sense of meaning can be detected in its contrast with the mechanical. Explicitly, it is largely conceived as a different level of analysis, in accord with a familiar distinction inherited from historically embedded modes of thought. Implicitly, and emerging, it has also been understood as direct engagement with meaning.

Some of the sources indicate or imply a conception of meaning as connected with direct human activity. Meaning in the sense in which it is used by Gödel—‘insights ... only from their *meaning*’ (Gödel, 1958/1990, p.241), and, ‘the use of abstract terms on the basis of their *meaning*’ (Gödel, 1964/2004, p.72)—implies, particularly by ‘insights’ (Gödel, 1958/1990, p.241) and ‘use’ (Gödel, 1964/2004, p.72), direct human engagement with meaning. Searle implicitly connects semantics with intentionality, a feature of ‘mental states’ (Searle, 1980, p.424) or human consciousness, which could include direct engagement with meaning. Ordinary discourse would not be contradiction in with meaning as part of human consciousness, although the distinction of syntax from semantics is also used to differentiate levels of analysis.

A particular form of direct human activity on meaning, the linking together of words which have dissimilar expressions but some commonality in meaning, can be revealed to be humanly simple but not automatically computable, in a classic sense. Everyday activity can be exemplified by the utterance, *Oranges and lemons say the Bells of St. Clements*. A human, including a human child, could give ostensive or linguistic evidence of understanding the meaning of *oranges* and *lemons* and the connection between them, by pointing to or naming other instances of the category, *fruit*. The process of recognizing the meanings of the words, *oranges* and *lemons*, is self-evidently simple for a human to conduct, as recognition and connection can normally be made by children raised in a society with the specific spoken language. Computationally, or mechanically or syntactically, we can only engage directly with the expression of the words. The expressions, *oranges* and *lemons*, have extensive commonalities, in their existence as part of the lexicon of written English, and, further, in their derivation from a single alphabet and the arrangement of their constituent letters in accord with conventions for combination of letters into words within the English language lexicon. They both exemplify and correspond to a sophisticated understanding of the word of printed English, which embodies a rigorous focus on the level of expression, as ‘a cohesive group of letters with strong internal statistical influences’ (Shannon, 1951/1993 pp.197–198). However, their very commonality implies that they do not offer elements distinctive to the particular expressions which can separate them from other words of printed English and which would be amenable to automatic mechanical or computational detection, in the classic sense of a general process for determining the presence of the desired characteristic (Turing, 1936-1937/2004). As such, detecting a common meaning is non-computable. Recognition of commonality of meaning between two dissimilar expressions, drawn from a common lexicon, has then been revealed to be non-computable under certain conditions. We have then identified a form of everyday activity which is humanly simple as a semantic process but resistant to computation.

The fundamental aim for compilations, of collocating common or related meanings, irrespective of their particular form of expression in the language of discourse, can involve syntactic procedures or direct engagement with meaning, and in some instances, may necessitate direct engagement with meaning. Related meanings with syntactically similar expressions—for instance, *lemon*, *lemons*, and *lemony*—could be collocated either by considerations of meaning or by syntactic computational transformations. Related meanings with strongly different expressions may require direct human engagement with meaning, if they are to be linked or collocated. For instance, to give a fictional example, *Raymond Chandler*, *Dashiell Hammett*, and *William Faulkner*, understood as the names of writers associated with a particular genre of film, could all be gathered under the generic term, *Film noir*, but such a collocation would require direct human engagement with meaning and could not be produced by mechanical or syntactic procedures, in the classic sense. A crucial potential value for human activity on meaning for compilations which is not immediately realizable mechanically or computationally—the gathering together of items related in meaning but dissimilar in pattern—has then been isolated. We have then definitively begun to illustrate and isolate direct human activity on meaning, distinctive from syntactic procedures, as it could be manifested for compilations.

The potential value for human activity on meaning of compilations has been partly deductively derived, from an understanding of the constraints on computational processes, but it can be inductively supported, from real world practices on data for compilations. Linking together terms related in meaning but contrasting in pattern would form a substantial part of classic relations for compilations: from genus to species (for instance, *fruit* to *lemon*), of broader term to narrower term, and term to related term, in thesauri, and *see* and *see also* cross references in indexes. Human activity for databases has substantial costs (Hayes, 2000) and may have value not obtainable from mechanical procedures. Value, as perceived by consumers of compilations, can be evidenced by a continuing market for particular compilations (Swanson, 1980). Markets for the costly activity of linking syntactically different, but semantically related, terms together continue to exist, within such disparate compilations as library catalogues and e-Bay. Oranges and lemons, if made available for sale on e-Bay, could be covered by the, possibly fictional, generic term and category, *fruit*. We have then obtained very strong inductive support for a partly deductively derived argument, from practical developments.

In summary, then, meaning as direct human activity motivated by meaning can include a form of activity, the association of syntactically strongly different but semantically related expressions, which is distinctively not mechanical, in the specific sense of not being immediately amenable to automatic computation. Such activity can be humanly simple and is significantly realized for compilations. The idea of meaning as direct human engagement with meaning has not been in contradiction with meaning as a level of analysis, but complementary and enabling fuller development of the not mechanical, providing the least and sharpest difference from an automatic mechanical procedure.

## Direct engagement with meaning and classic concepts of creativity

The linking of disparate things together to form a cohesive whole is central to high levels of creativity, on classic and widely diffused understandings of creativity. The 18<sup>th</sup> century Italian philosopher, Giambattista Vico, understood the human faculty for ingenuity, which would include creativity, in this fashion.

‘The power of ingenuity ... consists in the reciprocal joining of diverse things. ... Indeed, in an acute saying, these three features are founds – the things (*res*), the words (*verba*), and the joining or tying (*ligament*) of things and words. ... acumen consists in a rare and new aptness of two extremes happily joined in a certain saying.’ (Vico, 1811/1996, pp.125-126)

The joining together of diverse things as highly creative is traced to at least Aristotle’s *Rhetoric*.

‘only creative and acute philosophers are capable of finding in things far removed from each other that similarity which can be contemplated.’ (Vico, 1811/1996, pp.125-126)

A significant 20<sup>th</sup> century statement of synthesis and amalgamation as central to creativity can be found in T.S. Eliot’s conception of the poet’s mind.

‘When a poet’s mind is perfectly equipped for its work, it is constantly amalgamating disparate experience ... falls in love or reads Spinoza ... the noise of the typewriter or the smell of cooking; in the mind of the poet these experiences are always forming new wholes.’ (Eliot, 1921/1950, p.247)

In information science, creativity has been understood as the making of unprecedented connections between public knowledge, although it has been primarily computationally modelled rather than conceived as human activity directly motivated by meaning (Swanson, 1986). The notion of a *knight’s move*, the discovery of previously unarticulated connections, can be found in ordinary discourse. A concept of high levels of creativity, consistent with and continuous from creativity as human activity on meaning, is, then, historically well established and also sustained in modern discourse, including information science and ordinary discourse.

An example can be given which combines the procedures of selection, coordination, and arrangement, as understood to be involved in compilations, from the perspective of copyright, with very high levels of creativity. Written English could be conceived for analytical purposes, as a lexicon of words, broadly corresponding to a monolingual dictionary. A rhetorical task could then be conceived of taking the names of the twelve calendar months, selecting seventeen words from the lexicon, and coordinating and the names of the months and the words, with normal punctuation marks, to produce an interesting utterance. Very high, and extremely rare, levels of creativity are exhibited in the following utterance.

‘October. This is one of the peculiarly dangerous months to speculate in stocks in. The others are July, January, September, April, November, May, March, June, December, August, and February. – *Pudd’nhead Wilson’s Calendar*’ (Twain, 1894/1969, p.177)

The interest of the utterance is evidenced by the continuing market for the work in which it is included, *Pudd'nhead Wilson* (Twain, 1894/1969), and the rarity of such creativity by the limited survival in current markets of works from the late 19<sup>th</sup> century. The passage obtains some of its effect from the contrast of the reversals and gaps in chronological order— 'June, December, August' (p.177)—with the customary chronological sequence of the months, which could be syntactically generated, as well as from the contradiction between the meaning of '*peculiarly* dangerous' (p.177) and the exhaustive listing of the twelve months. A specific example has then been added to theory.

Creativity, including the highest levels of creativity, can then smoothly and progressively emerge within the not mechanical. The possibility of novelty contained within such high levels of creativity corresponds to the specific implications of the antithetical clause, 'nothing remotely creative' (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363), that the fully creative should be not 'dictated by state law' nor 'an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course ... practically inevitable ... time-honored tradition' (pp.362–363). The conception of creativity has then been extended to encompass the fully creative.

## Creativity

The inclusion of novelty in the fully creative also implies a contrast with the 'so ... routine', enabling a fuller understanding of the relation of creativity to the not mechanical. Routinicity in the process is explicitly designated as 'so ... routine' and can also be revealed by being embodied in the product, as 'entirely typical' or 'garden-variety', both for processes designated as 'so ... routine' (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), and those not so designated. Within the not mechanical, and reading upwards (see Table 2) <Insert Table 2 here >, where routinicity is present in both process and product, the compilation is not creative. Where the process is 'so ... routine' (p.362) but routinicity is not revealed in the product, the compilation is creative and can be understood to have the slightest trace of creativity. Where 'so ... routine' (p.362) is not designated for the process and routinicity is increasingly less marked in the product, the process can be understood to reach higher levels of creativity. Where routinicity is not marked at all in the process or present in the product, the process can be understood as fully creative, for both the highest placed combination and the interleaved combination regarded as analogous to it. The not mechanical remains substantively invariant within creativity, across all the transitions in levels of routinicity. We can then understand not mechanical activity on meaning as becoming creative, first at a transitional level and then fully creative, after it has passed certain levels of routinicity (see Table 2).

The understanding of creativity meets all the conditions for creativity derived from the decision. The negation of the antithesis to creativity indicates that creativity begins immediately after the absence of creativity, at a transitional level corresponding to the level of creativity required for the 'creative spark ... so trivial as to be virtually nonexistent' (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359). The smooth movement between transitional and very high levels of creativity means that



creativity necessarily includes the ‘extremely low’ (p.345), but more than ‘so trivial’ (p.359), level of creativity required for a minimal degree of creativity. Creativity can be read from the end product as something not devoid of the slightest trace of creativity, in a mode of reading warranted by the reading of the absence of creativity established by the opinion, as ‘devoid of even the slightest trace of creativity’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362). Creativity is then knowable on the model of the treatment of the absence of creativity within the opinion. The connection to classic discourse about creativity gave it some connections with ordinary discourse and idea of creativity as constituted by a departure from routinicity, within the not mechanical, would be consistent with ordinary discourse. Creativity as involving direct engagement with meaning is also *prima facie* applicable to works other than compilations and the inclusion of all possible levels of creativity renders it fully applicable to all works. Creativity then occupies all required levels, is knowable on the given model, has a strong consistency with ordinary discourse, and is applicable to all works.

The formulation for creativity, that, *A compilation has the slightest trace of creativity if, and only if, it is not an entirely typical or garden-variety end product constructed by an automatic mechanical procedure or a so ... routine process*, can then be transformed. The inclusion of the highest possible levels of creativity enables the replacement of *the slightest trace of creativity* by *creative* (*is* is substituted for *has the* as an acceptable simplification for the embodiment of creativity in the product). The applicability of creativity to all works legitimates the replacement of *compilation* by *work*. The transformed formulation then reads.

A work is creative if, and only if, it is not an entirely typical or garden-variety end product constructed by an automatic mechanical procedure or a so ... routine process.

### **A minimal degree of creativity and originality**

The understanding of creativity can be further validated by integrating creativity, understood as human activity on meaning above a certain level of routinicity, primarily into a minimal degree of creativity but also into the creative spark ‘so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359), with a minimal degree of creativity and independent creation integrated into originality.

The ‘creative spark ... so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) was understood as a real level and amount of creativity below the level required for a minimal degree. The characterization of the ‘insufficient creativity’ ‘expended’ by Rural—‘could not be more obvious ... the most basic information’ (pp.362-363) — is consistent with the understanding developed of creativity as human activity on meaning. The creative spark ‘so trivial as to be virtually nonexistent’ (p.359) was later matched by a reference to, ‘a *de minimis* quantum of creativity’ (p.363). [Q]uantum’ (p.363) can be understood as an irreducible unit, between the level required for a minimal degree and the absence of creativity. ‘[D]e minimis’ (p.362) can be understood in both its ordinary sense of, of the least, and its more technical legal sense, of below legal significance. The ordinary and legal sense of *de minimis*

potentially coincide, in their reference to a quantum as an irreducible unit—the formulation ‘so trivial as to be virtually nonexistent’ (p.59) is acceptable as an ordinary discourse characterization of a unit below the ‘extremely low’ (p.345) level required for a minimal degree of creativity and in the legal sense of *de minimis*.

The level of creativity required for a minimal degree can then be elucidated. Contrastively, and in accord with the internal dynamics of the decision, it can be understood as ‘more than a *de minimis* quantum’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363). ‘[M]ore than’ (p.363) must be understood as indicating a Euclidean line, without significant breadth, separating the level required for a minimal degree of creativity from a *de minimis* quantum, to bring the meaning of ‘more than’ (p.363) into accord with the implications of ‘there remains’ (p.359) in, ‘[t]here remains a narrow category of works in which the creative spark is ... so trivial as to be virtually nonexistent’ (p.359). The level of creativity required for a minimal degree can be further understood as ‘intellectual’, from other opinions endorsed within the decision, in which ‘intellectual’ (pp.346, 347, 362) is the only term directly connected to a minimal degree of creativity which can denote a level. Intellectual can be extrapolated to include skills requiring specialized training, from a classic passage in Supreme Court judgment explicitly endorsed within the decision (p.359).

‘The amount of training required for humbler efforts than those before us is well indicated by Ruskin. ‘If any young person, after being taught what is, in polite circles, called ‘drawing,’ will try to copy the commonest piece of real work,—suppose a lithograph on the title page of a new opera air, or a woodcut in the cheapest illustrated newspaper of the day,—they will find themselves entirely beaten.’ Elements of Drawing, first ed. 3.’ (Bleistein, 1903)

An intellectual or specialized level is consistent with ‘more than a *de minimis* quantum’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363). Such a level can be read from the work, including a compilation, as an end product, or, failing that, from an enquiry into the circumstances of production in which the elements of the work in which copyright is claimed were created.

The combination of level and amount of creativity sufficient for a minimal degree is explicitly indicated in the opinion, first directly and ostensibly.

‘if the compilation author clothes facts with an original collocation of words, he or she may be able to claim a copyright in this written expression. Others may copy the underlying facts from the publication, but not the precise words used to present them. In *Harper & Row*, for example, we explained that President Ford could not prevent others from copying bare historical facts from his autobiography, but that he could prevent others from copying his ‘subjective descriptions and portraits of public figures’.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.348)

The precise words, understood to be a product of President Ford’s creative activity at an intellectual level, correspond to the combination of the level required and the amount of creativity sufficient for a minimal degree of creativity. The formulations, ‘an original collocation of words’, and, more intensely, ‘the precise words’ (p.348), imply a definite order of words. The number of precise words then corresponds to a sufficient amount of creativity at the requisite level. Short (less than ten, for instance) sequences are known to

be likely to be distinctive, even in very large corpora, from experience of using large collections of text searchable by phrase searching. The distinctiveness of such sequences is also theoretically explicable, from the understanding of the word as ‘a cohesive group of letters with strong internal statistical influences’ (Shannon, 1951/1993 pp.197–198). A sequence of words would then be a weakly statistically correlated linear concatenation of internally cohesive units. A sufficient amount of creativity, for compilations and other works with added written expression, can then definitively be read directly from the product, from a sufficient number of consecutive words.

The decision then indicates how this amount of creativity, is to be embodied in the process of creating compilations, without ‘an original collocation of words’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.349) .

‘Where the compilation author adds no written expression but rather lets the facts speak for themselves, the expressive element is more elusive. The only conceivable expression is the manner in which the compiler has selected and arranged the facts.’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.349)

The amount of creativity for compilations without additional written expression cannot be directly read from the number of consecutive words.

The equivalence to the amount of creativity in the precise words can be discerned, from an exchange value perspective. Amounts of creativity at the required, and common, level can be understood as equivalent, when they can be fairly exchanged for each other, drawing on a deep sense of exchange value. The amount of creativity embodied in the precise words can be understood to be represented by the exchange, or monetary, values connected with them, from a related and surface, although not superficial, sense of exchange value. An equivalent amount of creativity embodied in compilations without additional written expression can then be understood to be similarly represented by exchange or monetary values closely comparable to those connected with the precise words. Such an understanding of amount is also consistent with a minimal degree of creativity as ‘more than a *de minimis* quantum of creativity’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363). Quantum is still understood as an irreducible unit, continuous with its previous interpretation, but with reference to amount rather than to level, and *de minimis* can be restricted to its specialized sense, of below legal significance. The amount of creativity required, for both compilations with and without additional written expression, can then be understood to be indicated by more than a *de minimis* quantum of exchange values connected with the product and arising from creative activity at or above the required level.

A humanly created bibliographic record then emerges as one possible correlate to, or, at least, constituent of, the combination of level required and amount sufficient for a minimal degree of creativity. The level of creativity involved in compilations can be understood as intellectual—independent references to the ‘intellectual labor of cataloging and indexing’ (Wilson, 2001, p.203) can be found—and also to require specialized training. The combination of level and amount of creativity embodied in a bibliographic record has been connected with certain exchange and monetary values.

‘Any proper accounting would assign a cost of at least \$30 to the work in creating just one of those records [for OCLC WorldCat].’ (Hayes, 2000, p.76).

The cost indicated would correspond or readily aggregate to more than a *de minimis* quantum of exchange values, in the legal sense of *de minimis*. Other correlates would then include semantically transformed indexes or other records constructed by human intellectual or specialized activity.

The level of creativity required and the amount sufficient for a minimal degree of creativity can be connected to the understanding of creativity previously established. The absence of routinicity from both the process and the product for the fully creative admits an intellectual level and indicates a sufficient amount, for both the highest placed and the interleaved combination for creativity (see Table 3 first row) <Insert Table 3 here >. The fully creative could then correspond to a minimal degree of creativity. For the creative (see Table 3 second to fourth rows), the level of creativity is increasingly unlikely (reading downwards from the second to the fourth row in Table 3) to be intellectual if the routinicity in the product implies routinicity in the process. The level of creativity could be intellectual if the routinicity in the product is exclusively to do with amount, without implications for the process, but the amount would then be insufficient for a minimal degree of creativity. The creative, then, is either below the required level or insufficient in amount for a minimal degree of creativity. The routinicity designated in the process and revealed in the product for the slightest trace of creativity (see Table 3 fifth row) renders it *a priori* unlikely to be intellectual in level. It is then necessarily below the required level for a minimal degree of creativity. Both the creative and the slightest trace of creativity correspond to a *de minimis* quantum of creativity, either by level or by amount or both. Only the fully creative can then correspond to a minimal degree of creativity.

The relation of the two interleaved combinations for creativity to the overall argument can be clarified (see Table 3). The first, understood as not mechanical activity in the construction of a significant and not so ... routine automatic mechanical procedure admits an intellectual and specialized level and a sufficiency of amount of creativity, in addition to the common activity on meaning already identified. The level and amount of creativity can also be indicated by its exchange value. The analogy with the highest placed combination for creativity is then confirmed. The second, with a ‘so mechanical or routine’ Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.362), process necessarily falls below an intellectual level and can be definitively excluded from a minimal degree of creativity. The discounting of the combination, previously provisionally made for creativity, is then rendered unnecessary and can be replaced by a definitive placing out of relevant scope in relation to a minimal degree of creativity. The possible disturbance to the argument has not then been realized and the integrity of the analysis has been sustained. The fully creative is confirmed as potentially corresponding to a minimal degree of creativity, for all the combinations.

The conditions for a minimal degree of creativity derived from the decision can be recalled. It was required to have a level and for that level to be knowable, from its

specification as part of a test for originality. Creativity at the required level must also give rise to amount significant for copyrightability and amount should be discernible. The identification of the level required as intellectual, and as readable from the product or by an enquiry into its conditions of production, fulfils the requirement for a testable, or sufficiently knowable to be testable, level. The possibility of determining the sufficiency of amount, from the exchange values connected with the combination of level and amount in the end product, renders amount discernible. A minimal degree of creativity, as realized in compilations, is then itself discernible. The understanding of a minimal degree of creativity then meets all the conditions derived from the decision and is thereby sufficient.

The relation of independent creation, the other constituent of originality, to a minimal degree of creativity can then be understood as, who originated the elements of the work with a minimal degree of creativity. In the decision, this is signaled by the ‘to’ in ‘not original to Rural’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363).

‘We conclude that the names, towns, and telephone numbers copied by Feist were not original to Rural’ (p.363) [emphasis added] (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.363)

The understanding of the relation of independent creation to creativity is then consistent with its development within the decision.

Originality, understood as solely constituted by a minimal degree of creativity and independent creation, is then discernible from a more than a *de minimis* quantum of exchange values arising from creative activity at, or above, the requisite level. A discriminatory process for determining originality for compilations can be specified. The existence of the required level of creativity can be tested by two consecutive discriminations.

- Are there elements of the work not produced by an automatic mechanical procedure?
- Do those elements embody creativity at the required intellectual level?

The sufficiency of the amount of creativity can then be determined.

- Do the elements at the required level embody a sufficient amount of creativity?

(The process of discrimination can be followed through Table 3.) Independent creation can then be determined, if a minimal degree of creativity exists.

- Who originated the elements of the work with a minimal degree of creativity?

Each discriminatory step takes the outcome of the previous discriminations, as its exclusive object.

In summary, then, we have progressively integrated creativity into a minimal degree of creativity and into originality. The potential for creativity to have amount has been revealed. We have then further validated the understanding of creativity developed.

## **Conclusion**

The argument has had certain characteristics to commend it.

In relation to the decision, the exhaustive identification of references to a minimal degree of creativity and to the creative spark below the level of creativity required for originality, demonstrated to contain the totality of consideration of creativity in the direct text of the decision, is indicative of comprehensiveness. References to the creative spark below the level for originality were then fully distributed between creativity ‘utterly lacking’ and ‘so trivial as to be virtually nonexistent’ (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359), demonstrating a full depth of analysis. Creativity was substantiated but not over-populated, in accord with negative approach to its delimitation in the judgment. The treatment of an automatic mechanical procedure as the primary element of the creativity ‘utterly lacking’ (p.359) corresponds to the priority accorded to ‘so mechanical’ (p.362) within the opinion. The order of discrimination for originality for compilations embodied the relative priority given to each element in the decision, from ‘so mechanical’ (p.362), through a further level and then an amount of creativity, to independent creation. These elements of parallelism between the argument and decision are suggestive of the appropriateness of the argument to its object, the decision. Comprehensiveness indicates that the relevant substantive elements of the decision have been fully captured and parallelism suggests the capture of its approach.

The argument has also had substantive and formal characteristics generally considered desirable. Substantive distinctions, for instance of meaning from syntactic processes, are accepted as founding assumptions in the disciplines from which they were derived and are also present in ordinary discourse. The substitution of a correlated external standard to yield a conceptual gain of greater intersubjectivity is also a classic process of legal advance. Formally, the central components of the argument consisted only of the correlation and a major inferential step, of negation, revealing economy. Each subsequent step, from an automatic mechanical procedure to the not mechanical, from the not mechanical to meaning, from meaning to direct engagement with meaning, and from direct engagement with meaning to classic concepts of creativity, took the outcome of the previous stage as its basis, indicating a sequential argument connected as single chain. The descent from originality to creativity, and the subsequent ascent, could also be graphically represented, by a single diagram, revealing a strong degree of symmetry. Within the central and nonsymmetrical portion of that argument, creativity was progressively developed from a transitional to the very highest level. Deep rooting in relevant discourses, economy, sequentiality, symmetry, and progressiveness are often taken to indicate valid arguments, if their object has been fully comprehended.

In this instance, these qualities have been combined with a full capture of the decision. We can then regard the understanding of creativity as human action motivated by meaning, above a certain level of routinicity, as very strongly proven.

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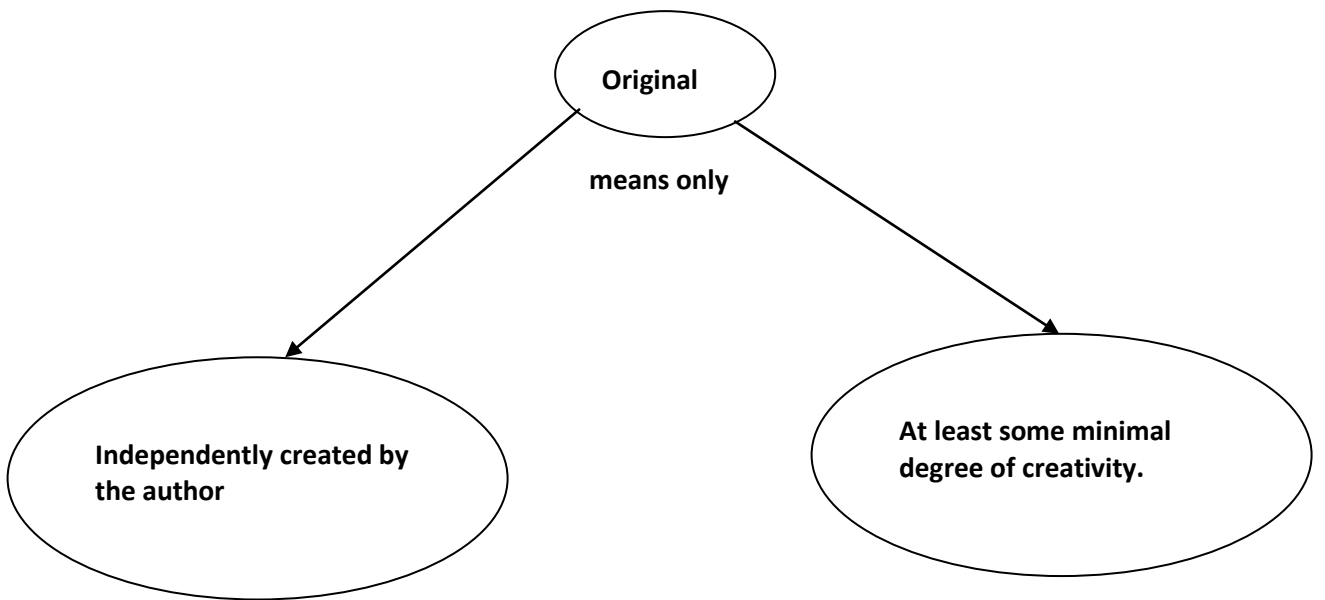


Figure 1. The meaning of originality.

*Original, as the term is used in copyright, means only that the work was **independently created by the author (as opposed to copied from other works)** (p.345)*

*originality requires **independent creation** (p.346)*

These choices as to selection and arrangement, so long as they are **made independently by the compiler** and entail a minimal degree of creativity, are *sufficiently original that Congress may protect such compilations through the copyright laws.* (p.348)

*Under the doctrine [of sweat of the brow], the only defense to infringement was **independent creation.** (p.353)*

*Originality requires only that the author make the selection or arrangement **independently (i.e., without copying that selection or arrangement from another work)** (p.358)*

Note. The references to independent creation are given in **bold** and the primary evidence for their assimilation in *italics*.

**Figure 2. References to independent creation.**

*Original, as the term is used in copyright, means only ... that it [the work] possesses at least **some minimal degree of creativity**. ... The vast majority of works *make the grade* quite easily, as they *possess some creative spark*. (p.345)*

*The Court explained that originality requires ... **a modicum of creativity** (p.346)*

*the Court emphasized **the creative component** of originality (p.346).*

*so long as they ... entail **a minimal degree of creativity**, are sufficiently original (p.348)*

*Originality requires ... **some minimal level of creativity**. (p.358)*

*the Constitution mandates **some minimal degree of creativity** (p.362)*

***the modicum of creativity** necessary to transform mere selection into copyrightable expression. (p.362)*

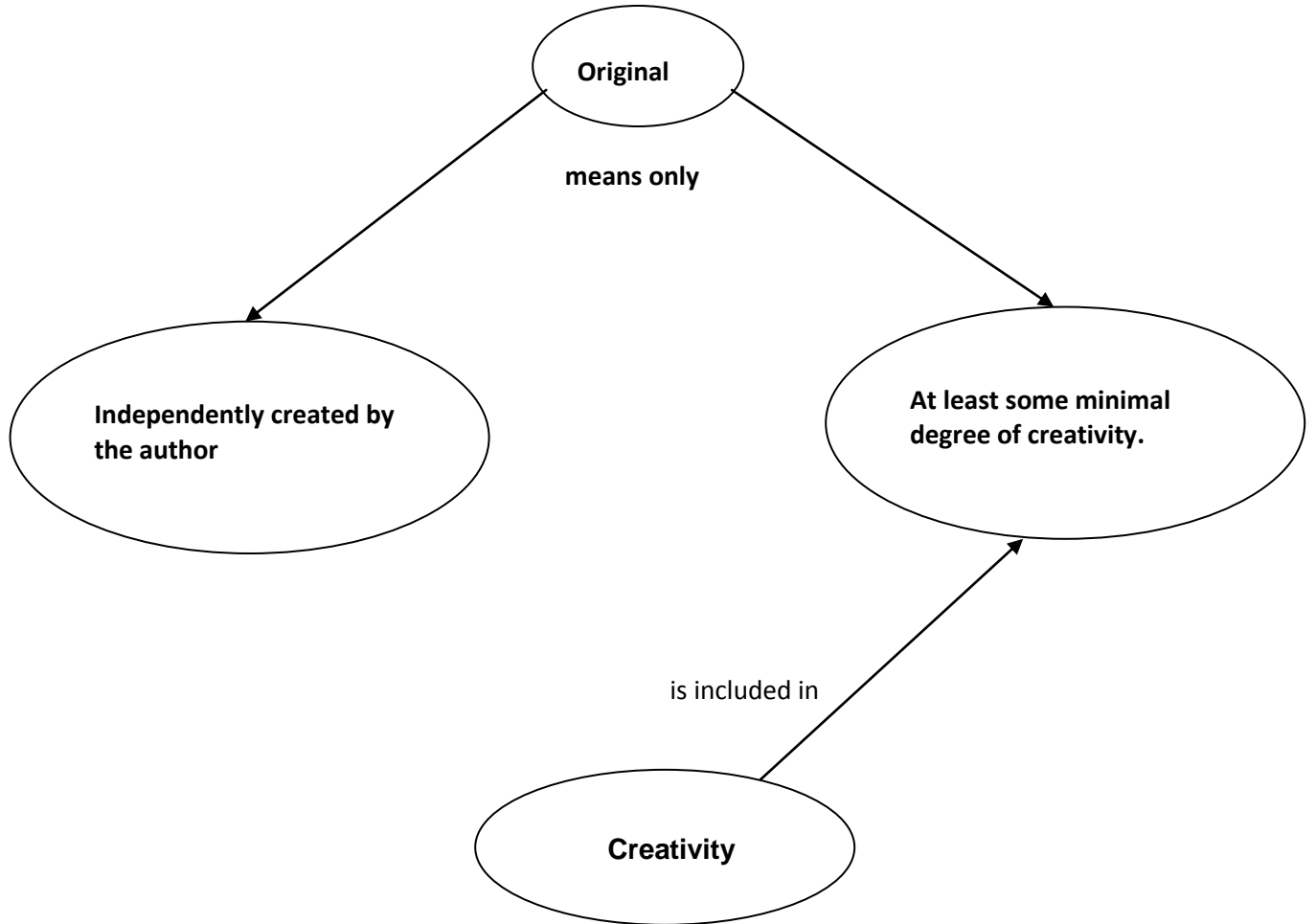
***the minimal creative spark** required by the Copyright Act and the Constitution. (p.363)*

*As a constitutional matter, copyright protects ... **more than a de minimis quantum of creativity**. (p.363)*

Note. The initial reference to the at least some minimal degree of creativity required for copyrightability is followed by further references which can be assimilated to it. They can be identified from their connection to the initial reference (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991a, p.345), and their linking to originality (pp.345, 346, 348), to the Constitution (pp.362-363), and to copyrightable expression (p.362).

The references which can be assimilated to a minimal degree of creativity are given in **bold** and the primary evidence for their assimilation in *italics*.

**Figure 3. References which can be assimilated to a minimal degree of creativity.**



Note. **Bold** is used for terms and phrases directly derived from the decision.

**Figure 4. Originality, at least some minimal degree of creativity, independent creation, and creativity.**

*Originality requires that ... it [the work] display some minimal level of creativity. ... the vast majority of compilations will pass this test, but not all will. There remains a narrow category of works in which **the creative spark is utterly lacking or so trivial as to be virtually nonexistent.** ... Such works are incapable of sustaining a valid copyright. (pp.358-359)*

*The question that remains is whether *Rural selected, coordinated, or arranged these uncopyrightable facts in an original way. The selection and arrangement of facts cannot be so mechanical or routine as to require **no creativity whatsoever*** (p.362)*

*Rural's white pages are entirely typical ... [t]he end product is a garden-variety white pages directory, **devoid of even the slightest trace of creativity*** (p.363).

*Rural expended ... **insufficient creativity*** (pp.362-363)

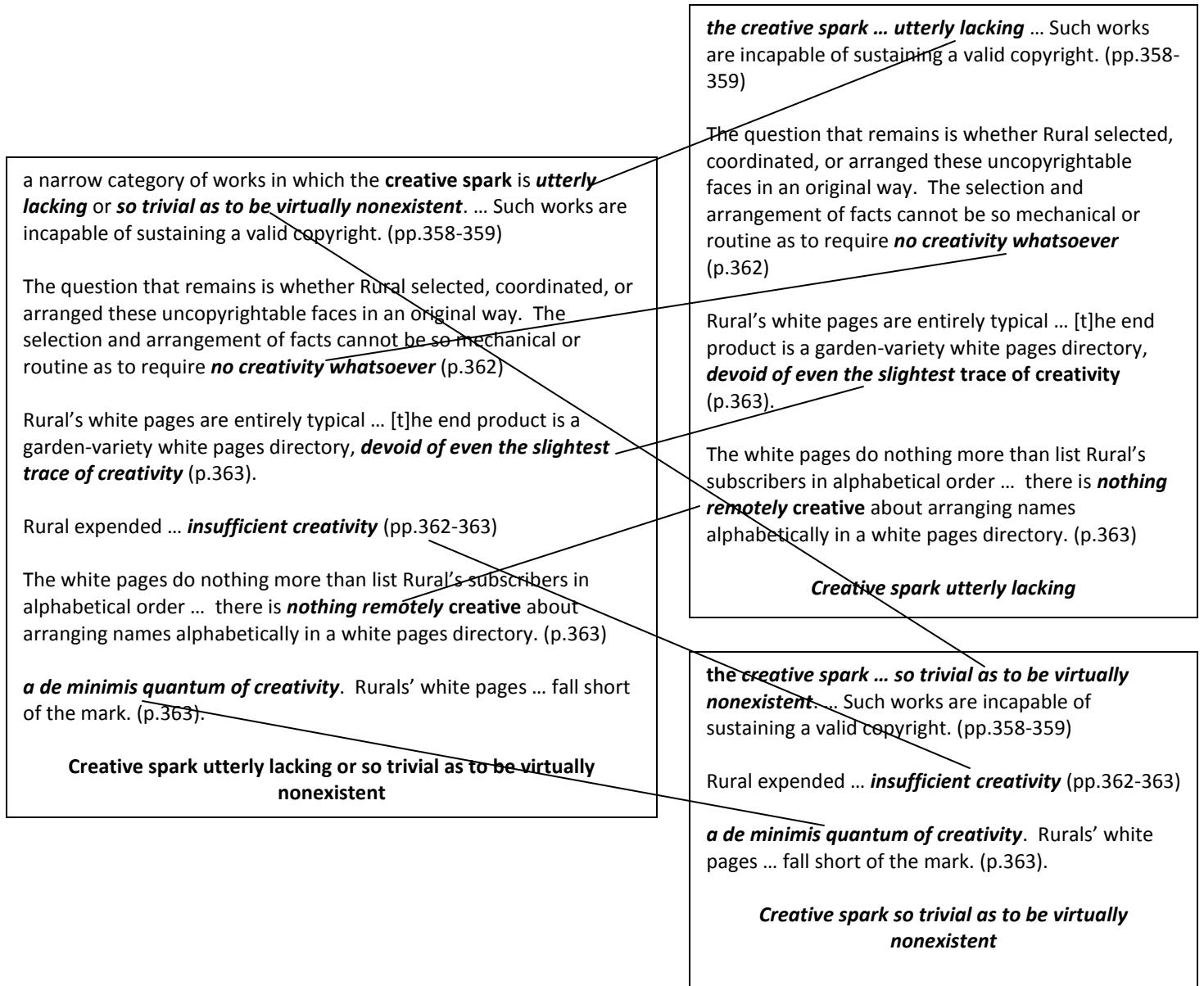
*The white pages do nothing more than list Rural's subscribers in alphabetical order ... there is **nothing remotely creative** about arranging names alphabetically in a white pages directory. (p.363)*

***a de minimis quantum of creativity.** Rurals' white pages ... fall short of the mark. (p.363).*

Note. Further references to the creative spark without the level required for originality are identifiable from their direct connection with Rural's activities in construction of the directory or the directory itself (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991a, pp.362-363), given that Rural's white pages fall below the level of creativity required for originality (p.363).

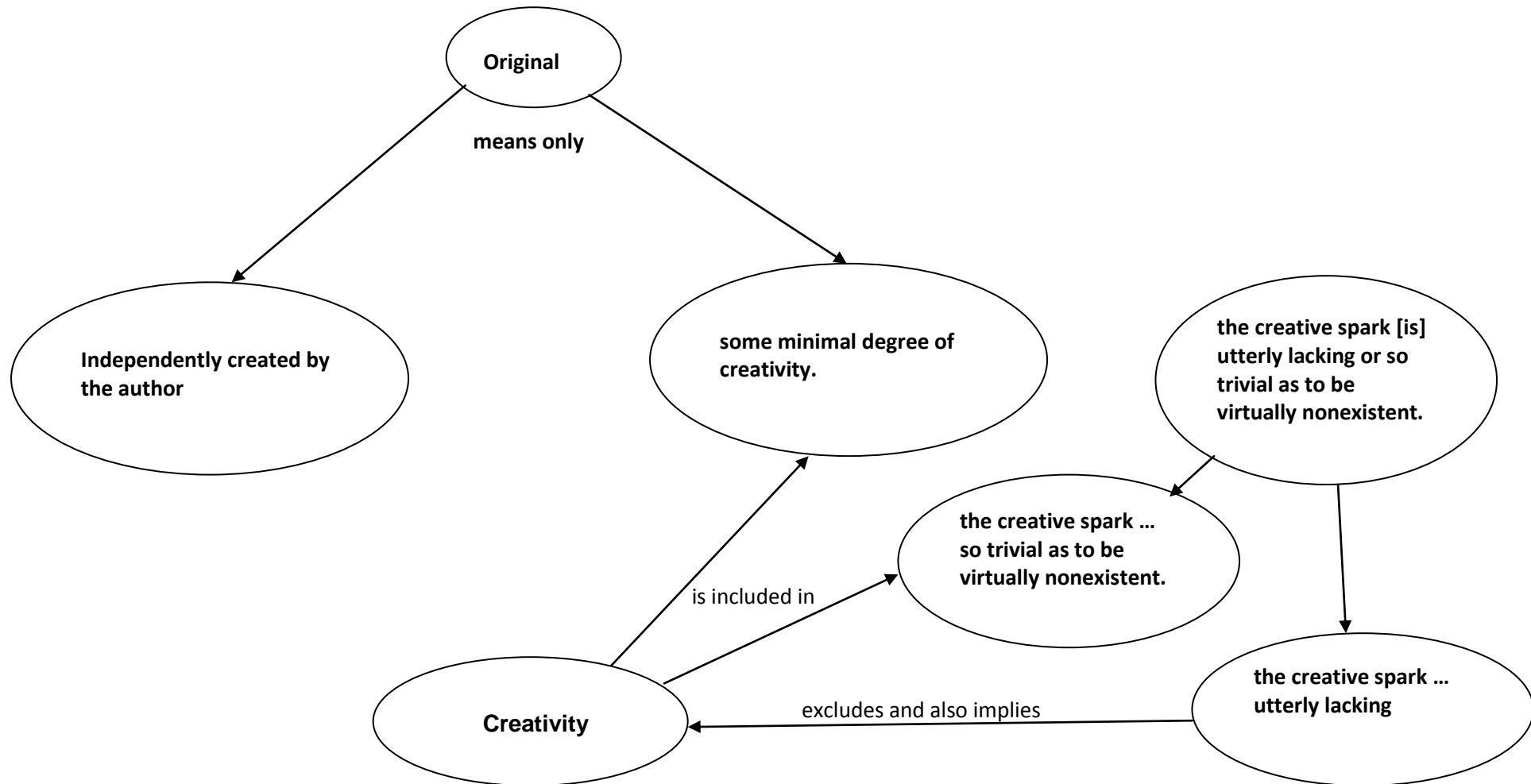
The references to the creative spark are given in **bold** and the primary evidence for their reference in *italics*.

**Figure 5. References to the creative spark utterly lacking or so trivial as to be virtually nonexistent.**



Note. The reference to the creative spark utterly lacking or so trivial as to be nonexistent is given in **bold** and the references to the creative spark utterly lacking and to the creative spark so trivial as to be virtually nonexistent in ***bold italics***.

**Figure 6. The creative spark utterly lacking and so trivial as to be virtually nonexistent.**



Note. **Bold** is used for terms and phrases directly derived from the decision.

**Figure 7. Originality, at least some minimal degree of creativity, independent creation, the creative spark utterly lacking or so trivial as to be virtually nonexistent, and creativity.**





Note. References are given in **bold** and the primary evidence for the reference in *italics*.

**Figure 8. All references to at least some minimal degree of creativity, the creative spark utterly lacking or so trivial as to be virtually nonexistent, and to creativity in the direct text of the decision.**

Process			Product			Process and product	Creative or not-creative	
automatic mechanical procedure	so ... routine	automatic mechanical procedure v so ... routine	entirely typical	garden-variety	entirely typical v garden-variety	(automatic mechanical procedure v so ... routine) ^ (entirely typical v garden-variety)		
FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	Creative	
FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	Creative	
FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	Creative	
FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	Creative	
FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	Creative	
FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative	
FALSE	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative	
FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative	
TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	Creative	A novel mechanical procedure.
TRUE	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative	
TRUE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative	
TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative	
TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	Creative	Tension between process and product.
TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative	
TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative	
TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative	

Note. The customary ordering for logical truth tables, from true to false, is reversed, to bring creativity to the upper levels of the ordering, in accord with the differentiation by levels of creativity within the opinion.

**Table 1. The creative and the not creative.**

Process			Product			Process and product	Creative or not-creative			
automatic mechanical procedure	so ... routine	automatic mechanical procedure v so ... routine	entirely typical	garden-variety	entirely typical v garden-variety	(automatic mechanical procedure v so ... routine) ^ (entirely typical v garden-variety)				
FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	Fully creative	Absence of marked routinicity.	Not mechanical	Routinicity
FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	Creative	Decreasing levels of routinicity in the process as revealed in the product.		
FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE	Creative			
FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	Creative			
FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	Slightest trace of creativity	Decreasingly 'so ... routine' as revealed in the product.		
FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative			
FALSE	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative			
FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative			
TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	Fully creative	Absence of marked routinicity.		
TRUE	FALSE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative			
TRUE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative			
TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative			
TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	Creative	Tension between process and product.		
TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	not-creative			
TRUE	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE	not-creative			
TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	not-creative			

Table 2. Creativity

Process			Product			Process and product	Creative or not-creative	A minimal degree of creativity			Originality
automatic mechanical procedure	so ... routine	<b>automatic mechanical procedure v so ... routine</b>	entirely typical	garden-variety	<b>entirely typical ... garden-variety</b>	(automatic mechanical procedure v so ... routine) ^ (entirely typical v garden-variety)		Requisite level of creativity.	Requisite level and sufficient amount of creativity.	A minimal degree of creativity, a <i>de minimis</i> quantum of creativity, or not creative.	Original
FALSE	FALSE	<b>FALSE</b>	FALSE	FALSE	<b>FALSE</b>	FALSE	Fully creative	Potentially	Potentially	Potentially	Potentially
FALSE	FALSE	<b>FALSE</b>	FALSE	TRUE	<b>TRUE</b>	FALSE	Creative		Increasingly unlikely for level and amount.	A <i>de minimis</i> quantum	Not original
FALSE	FALSE	<b>FALSE</b>	TRUE	FALSE	<b>TRUE</b>	FALSE	Creative				
FALSE	FALSE	<b>FALSE</b>	TRUE	TRUE	<b>TRUE</b>	FALSE	Creative				
FALSE	TRUE	<b>TRUE</b>	FALSE	FALSE	<b>FALSE</b>	FALSE	Slightest trace of creativity	Not	NA		
FALSE	TRUE	<b>TRUE</b>	FALSE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
FALSE	TRUE	<b>TRUE</b>	TRUE	FALSE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
FALSE	TRUE	<b>TRUE</b>	TRUE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
TRUE	FALSE	<b>TRUE</b>	FALSE	FALSE	<b>FALSE</b>	FALSE	Fully creative	Potentially	Potentially	Potentially	Potentially
TRUE	FALSE	<b>TRUE</b>	FALSE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	Not original
TRUE	FALSE	<b>TRUE</b>	TRUE	FALSE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
TRUE	FALSE	<b>TRUE</b>	TRUE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
TRUE	TRUE	<b>TRUE</b>	FALSE	FALSE	<b>FALSE</b>	FALSE	Creative	Not	not-creative	not-creative	
TRUE	TRUE	<b>TRUE</b>	FALSE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
TRUE	TRUE	<b>TRUE</b>	TRUE	FALSE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	
TRUE	TRUE	<b>TRUE</b>	TRUE	TRUE	<b>TRUE</b>	TRUE	not-creative	not-creative	not-creative	not-creative	

Table 3. Creativity and a minimal degree of creativity.

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<sup>1</sup> The difference between the noun, *creativity*, the adjective, *creative*, contains the possibility of a significant difference, in their meaning or in the inclusion of creativity. However, a closely subsequent reference to the first reference to a 'minimal degree of creativity', 'some creative spark' (p.345), uses 'creative' as a term, implying an equivalence between *creativity* and *creative*, within a minimal degree of creativity. The variation between 'creativity' (pp.345, 346, 348, 362, 363) and 'creative' (pp.345, 346, 363) can, in this and every subsequent reference which can be assimilated to a minimal degree of creativity, be connected with the grammatical requirements of the surrounding phrase. The possibility of a significant distinction is not, then, realized.

<sup>2</sup> The pattern of occurrence of *creativity* and *creative* within the creative spark 'utterly lacking or so trivial as to be virtually nonexistent' (Feist Publications, Inc. v. Rural Tel. Service Co., Inc., 1991, p.359) is similar to that within a minimal degree of creativity. The variation between 'creativity' (pp. 358, 362, 363) and 'creative' (pp.359, 363) can be connected with grammatical requirements of the surrounding phrase, the difference is not semantically significant, and 'creativity' (pp. 358, 362, 363) occurs more frequently.