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Hohfeld's Cube

Mark Andrews

HOHFELD'S CUBE

by

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I. INTRODUCTION

S EVEN DECADES HAVE passed since Wesley N. Hohfeld defined eight basic jural relations in his masterful attempt to clarify legal thinking.[1] Since the appearance of his *Fundamental Legal Conceptions* in 1913, his work has attracted both followers[2] and critics;[3] his ideas have appeared in United States Supreme Court opinions,[4] and the Restatement of Property.[5]

The eight jural relations are the basic parts of the more complex legal relationships with which the law must deal. Hohfeld divided the eight into pairs which cannot exist together (opposites), and those which must exist together (correlatives);[6]

JURAL	right	privilege	power	immunity
OPPOSITES	no-right	duty	disability	liability

JURAL	right	privilege	power	immunity
CORRELATIVES	duty	no-right	liability	disability

Several analysts have worked to find a unifying theme within Hohfeld's ideas. Some have divided the eight concepts into primary and secondary relations,[7]

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[1]Hohfeld, *Some Fundamental Legal Conceptions As Applied In Judicial Reasoning,* 23 YALE L.J. 16 (1913).

[2]*E.g.,* Anderson, *The Logic of Hohfeldian Propositions,* 33 U. PITT. L. REV. 29 (1971); Corbin, *Jural Relations and Their Classification,* 30 YALE L.J. 226 (1921) [hereinafter cited as *Jural Relations*]; Corbin, *Legal Analysis and Terminology,* 29 YALE L.J. 163 (1919) [hereinafter cited as *Legal Analysis*]; Cullison, *A Review of Hohfeld's Fundamental Legal Concepts,* 16 CLEVE.-MAR. L. REV. 559 (1967); Goble, *A Redefinition of Basic Legal Terms,* 35 COLUM. L. REV. 535 (1935); Morse, *The Hohfeldian Place of Power in Constitutional Cases,* 7 CAP. U.L. REV. 397 (1978) [hereinafter cited as *Hohfeldian Place of Power*]; Morse, *The Hohfeldian Approach to Constitutional Cases,* 9 AKRON L. REV. 1 (1975); Mullock, *Holmes on Contractual Duty,* 33 U. PITT. L. REV. 471 (1972); Williams, *The Concept of Legal Liberty,* 56 COLUM. L. REV. 1129 (1956); Comment, *Hohfeldian Analysis of Selected Interests in Immovables Under Louisiana Law,* 25 LOY. L. REV. 283 (1979).

[3]*E.g.,* Husick, *Hohfeld's Jurisprudence,* 72 U. PA. L. REV. 263 (1924); Kocourek, *Basic Jural Relations,* 17 ILL. L. REV. 515 (1923) [hereinafter cited as *Basic Jural Relations*]; Kocourek, *Tabulae Minores Jurisprudentiae,* 30 YALE L.J. 215 (1921); McMenamin, Book Review, 10 VILL. L. REV. 407 (1965); Pound, *Fifty Years of Jurisprudence,* 50 HARV. L. REV. 557, 570 (1937); Stone, *An Analysis of Hohfeld,* 48 MINN. L. REV. 313 (1963).

[4]*E.g.,* Flast v. Cohen, 392 U.S. 83, 119 (1968) (Harlan, J., dissenting).

[5]RESTATEMENT (SECOND) OF PROPERTY §§ 1-4 (1977).

[6]Hohfeld, *supra* note 1, at 30.

[7]Finan, *Presumptions and Modal Logic: A Hohfeldian Approach,* 13 AKRON L. REV. 19, 26-31 (1979).

and others have stated that the eight concepts are all of a piece, functions of only one or two more general legal concepts.[8]

The thesis presented here is that the eight jural relations may be effectively graphed as the eight corners of a cube, and this image unifies all eight into a single logical structure. This structure symbolizes real legal relationships and assists an understanding of the way legal relations work. This article, then, is about Hohfeld's Cube.

The validity of the cube will be shown in three stages. First, the eight jural relations will be arranged on the cube in a manner which seems to best characterize the way Hohfeld intended his concepts to be used and which also seems to construct two parallel squares of opposition on the front and back of the cube. Second, the eight relations will be translated into symbolic logic. Finally, it will be shown that the eight jural relations, as they appear on the cube, do in fact have the same properties as a square of opposition. The article will close with some words on the practical use of the cube, particularly in the use of computers in legal research.

II. CONSTRUCTION OF THE CUBE

Hohfeld suggested that the eight jural relations were the "lowest common denominators of the law,"[9] "the lowest generic conceptions to which any and all 'legal quantities' may be reduced."[10] Arthur Corbin, one of the earliest defenders of Hohfeld's work, called these relations fundamental "because they are *constant* elements, into which all of our variable combinations can be analyzed, common denominators to which the superficially dissimilar, like law and equity, property and contract, can be reduced."[11] The purpose of these ideas, according to Champagne, is to describe the legal relationship between two parties "only at a given moment in time."[12]

Hohfeld defined none of his new terms, but provided concrete examples from case law. In his words, too "close an analysis might seem metaphysical rather than useful; so that what is here presented is intended only as an approximate explanation sufficient for all practical purposes."[13] Professor Corbin, however, took up the challenge of designing formal definitions for Hohfeld's concepts and presented the following in 1919:

Right. "An enforceable claim to performance (action or forbearance) by another. It is the legal relation of A to B when society commands action or

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[8]*E.g.*, Goble, *supra* note 2, at 535, 540; Morse, *The Hohfeldian Place of Right in Constitutional Cases,* 6 CAP. U.L. REV. 1, 8 n.32 (1976) (citing G. CHRISTIE, JURISPRUDENCE: TEXT AND READINGS ON THE PHILOSOPHY OF LAW 818 n.83 (1973)).

[9]Hohfeld, *supra* note 1, at 58.

[10]*Id.* at 59.

[11]*Jural Relations, supra* note 2, at 229 (emphasis in original).

[12]Comment, *supra* note 2, at 288.

[13]Hohfeld, *supra* note 1, at 44.

forebearance by B and will at the instance of A in some manner penalize disobedience."[14]

Duty. "It is the legal relation of a person, B, who is commanded by society to act or to forbear for the benefit of another person, A, either immediately or in the future, and who will be penalized by society for disobedience."[15]

Privilege. "The legal relation of A to B when A (with respect to B) is *free* or *at liberty* to conduct himself in a certain manner for the benefit of B by the command of society; and when he is not threatened with any penalty for disobedience, for the reason that society has made no command."[16]

No-right. "The legal relation of a person (A) in whose behalf society commands nothing of another (B)."[17]

Power. "The legal relation of A to B when A's own voluntary act will cause new legal relations either between B and A or between B and a third person."[18]

Liability. "The relation of A to B when A may be brought into new legal relations by the voluntary act of B."[19]

Immunity. "The relation of A to B when B has no legal power . . . to affect some one or more of the existing legal relations of A. As to that particular exiting relation A has an immunity with respect to B."[20]

Disability. "The relation of A to B when by no voluntary act of his own can A extinguish one (or more) of the existing legal relations of B."[21]

Corbin was the first of a number of writers to notice the unity of Hohfeld's concepts. He found that by using the terms "duty" and "power," one may arrive at the remaining six terms "definitely and quickly."[22] Goble concluded that the "basic legal concept is *power.* All other legal concepts are derivatives of this one."[23] Kocourek, a critic of Hohfeld, defined all eight in terms of "claims" and "powers," although Kocourek was working with different definitions.[24] Morse noted that Hohfeld's system was based on rights and duties,

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[14] *Legal Analysis, supra* note 2, at 167.

[15] *Id.*

[16] *Id.* (emphasis in original).

[17] *Id.* at 168.

[18] *Id.*

[19] *Id.* at 169.

[20] *Id.* at 170.

[21] *Id.*

[22] *Jural Relations, supra* note 2, at 230.

[23] Goble, *supra* note 2, at 535.

[24] *Basic Jural Relations, supra* note 3, at 521 n.6, 524.

with duty as the key concept.[25] These analyses each found a part of a general truth about Hohfeld's work. Each jural relation can be defined in terms of the other because all are part of a unified whole.

The construction of the cube begins with the location of uniform reference points for the two parties in each of the eight terms. In Corbin's definitions, the term "A" usually denotes the party who holds the particular relation under discussion; "B" usually indicates the party who holds the correlative relation. The term "A" is used to indicate the holder of legal relations even when these must be held by two different people at any given moment, as in the case of "power" and "liability." This inconsistent use of terms hinders the usefulness of Hohfeld's concepts.

This attempt to build a single structure of the eight will use a uniform reference point. Two different terms will always be used to denote two different parties in a single set of jural correlatives.

The initial construction of Hohfeld's Cube is somewhat mechanical. It is merely a method of finding the apparent relationships among Hohfeld's terms in preparation for a formal proof. This effort begins by arbitrarily choosing a place to locate the relation "right," and subsequently locating the other concepts in the order Corbin discussed them. This article places "right" in the upper left-hand corner of the back of the cube, and this side thus becomes the "A" side of the cube. "Duty" then appears on the corresponding corner of the front of the cube, and this becomes the "B" side.

Thus, the construction of the cube begins as follows:
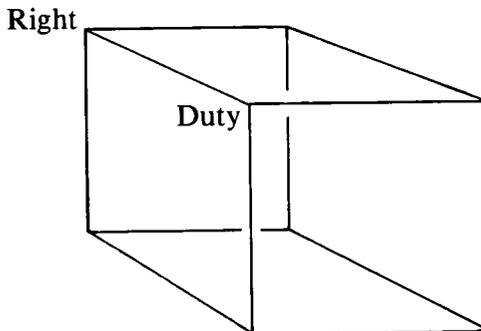
The next jural relation is "privilege." Privilege is the opposite of duty, and bears no direct relation to right. In relation to duty, privilege will lie on a diagonal on the same side of the cube as duty, which is the traditional method of symbolizing two opposing statements on a square of opposition.

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[25]Morse, *supra* note 8, at 8. *See also Hohfeldian Place of Power, supra* note 2, at 400 (Morse commenting on relationship of "privilege" and "right").

"No-right" is the correlative of privilege, and thus it appears on the corresponding back corner of the cube. The cube now contains the first four concepts which Hohfeld and Corbin analyzed and which Finan later called the "primary relations."[26]
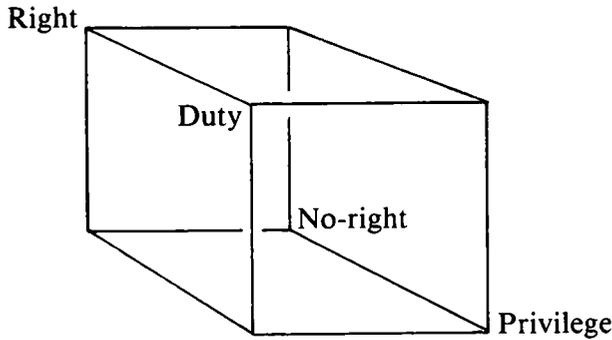
At this point, the cube begins to reveal one method of checking its validity; the use of some of Hohfeld's jural relations results in a configuration of ideas which is consistent with other such relations. The choices made thus far have resulted in no-right lying on a diagonal from right. On a square of opposition, this would symbolize a contradictory relationship between the two. A reference to Hohfeld's work shows that the two are indeed jural opposites.[27]

The relation of the second set of four concepts to the first four is less clear. Hohfeld emphasized no direct connection between the two sets, and the two share no jural relations in common. But if the full cube is to contain any logical meaning and practical usefulness, the arrangement of the second set of four cannot be arbitrary.

Hohfeld, however, observed some associations between the two. He cited relations between right and power and between liability and duty. Further, he pointed out a set of analogous relations: right is to privilege as power is to immunity. With these additional guideposts, the cube may be completed.

A. *Power is related to right.*

When discussing the notion of legal power, Hohfeld cited decisions which suggest that a power accompanies a right and that right is the broader idea implying the existence of a power. As an example of a power, Hohfeld offers, "X has the power to transfer his interest to Y,"[28] and cites the following support:

> Compare *Wynehamer v. People* (1856), 13 N.Y. 378, 396 (Comstock, J.: "I can form no notion of property which does not include the essential characteristics and attributes with which it is clothed by the laws of

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[26]Finan, *supra* note 7, at 29-31.

[27]Hohfeld, *supra* note 1, at 30.

[28]*Id.* at 45.

society . . . among which are, fundamentally the right of the occupant or owner to use and enjoy (the objects) exclusively, and his *absolute power to seal and dispose of them*"); *Bartemeyer v. Iowa* (1873), 18 Wall., 129, 137 (Field, J.: "The right of property in an article involves the *power to sell and dispose* of such articles as well as to use and enjoy it"); *Low v. Rees Printing Co.* (1894), 41 Neb., 127, 146 (Ryan, C.: "Property, in its broad sense, is not the physical thing which may be the subject of ownership, but is the right of dominion, possession, and *power of disposition* which may be acquired over it.").[29]

This view of the relation between right and power suggests that power is the corollary of right. It is thus placed on the "A" side of the cube below the term right.

B. *Liability is related to duty.*

Hohfeld wrote succinctly, "It is a liability to have a duty created."[30] In his criticism of a text about public service companies, Hohfeld observes:

> the learned writer's difficulties arise primarily from a failure to see what the innkeeper, the common carrier and others similarly "holding out" are under present *liabilities* rather than present *duties.* Correlativly [sic] to those liabilities are the respective powers of the various members of the public. Thus, for example, a travelling member of the public has the legal power, by making proper application and sufficient tender, to impose a duty on the innkeepr to receive him as a guest.[31]

Hohfeld has skipped a step in this line of reasoning. he states that a power may create a duty out of a liability. More precisely, the traveler has the present power to create a future right; it is this right, in turn, which will impose the correlative duty on the innkeeper.

In any event, the essential point remains. The notion of duty includes the idea that a given duty can be created out of a liability. It does not seem that Hohfeld is saying that every liability immediately implies the existence of some duty; that statement would not be correct. However, in the test cited, the existence of a present duty does imply the existence of a previous liability. Liability thus seems to be the corollary of duty and is placed below duty on the "B" side of the cube.

Liability and power are now located across from each other on opposite sides of the cube. The methods used in this analysis suggest that because of this relationship on the cube, these two concepts are correlatives; according to Hohfeld, this is in fact the relation between these two.

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[29]*Id.* at 45 n.67 (emphasis in original).

[30]*Id.* at 53.

[31]*Id.* at 52. *See also* Mullock, *supra* note 2, at 478 (noting the same relationship between power and right and between liability and duty).

C. *Power is to immunity as right is to privilege.*

Immunity is the final concept which can be placed on the cube by use of Hohfeld's observations. Hohfeld wrote that:

> a power bears the same general contrast to an immunity that a right does to a privilege. A right is one's affirmative claim against another, and a privilege is one's freedom from the right or claim of another. Similarly, a power is one's affirmative "control" over a given legal relation as against another; whereas an immunity is one's freedom from the legal power or "control" of another as regards some legal relation.[32]

On the cube constructed thus far, right and privilege appear on opposite ends of a long diagonal through the middle of the cube. The analogous point for immunity is on a similar diagonal. Immunity is thus located above privilege on the front of the cube.

There is one remaining corner of the cube and one remaining jural relation — disability. Disability thus appears above no-right on the A side of the cube, across from immunity. This location suggests that immunity and disability are correlatives, and a reference to Hohfeld shows that this is indeed the case.

Hohfeld might have continued the analogies of power/immunity and right/privilege with the concepts of liability and disability, duty and no-right. Paraphrasing Hohfeld, the quote immediately above could be rewritten as follows:

> A liability bears the same general contrast to a disability as a duty does to a no-right. A duty is one's affirmative obligation to another and one's no-right is the absence of any obligation from another. Similarly, a liability is one's affirmative subjection to the "control" of another in a given legal relation; whereas a disability is the absence of any legal power or "control" of another as regards some legal relation.

Thus, there are jural analogs as well as jural correlatives and jural opposites. The jural analogs are:

| right | power | duty | liability |
| privilege | immunity | no-right | disability |

The jural analogs bind together the first two groups of Hohfeld's concepts, This, then, is Hohfeld's Cube:

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[32]Hohfeld, *supra* note 1, at 55.
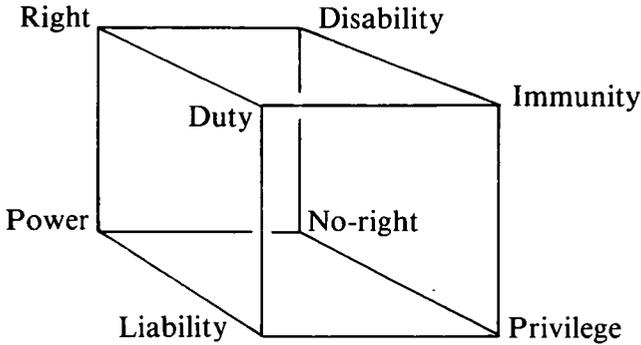
Each jural correlative appears on the opposite side of the cube from its counterpart, and each jural opposite appears on a diagonal across the square from its counterpart, on the same side of the cube.

The reader is not expected to accept the construction of the cube at this point. This effort has sought only informal relationships which are consistent with the general ideas set forth by Hohfeld with the more precise definitions offered by Corbin and with the goal of building a single coherent structure of the eight.

III. GENERAL PROOF OF THE CUBE

A. *The Symbols of the Eight Jural Relations*

The jural relations which appear on the front and back of the cube form two corresponding squares of opposition. Hohfeld's eight concepts now appear in an order which appears to be correct, given Hohfeld's notions of their meaning and function. It remains to check the validity of the cube. This proof will render Hohfeld's ideas into a symbolic logic and then demonstrate that the squares on the front and back of the cube have the same properties as a square of opposition in logic.

"Deontic logic" is the logic of obligations, and analysts such as Anderson, Mullock, and Finan[33] have provided symbolic translations of Hohfeld's ideas. In an article appearing in 1979, Finan devised two squares of opposition by dividing the eight concepts into "primary" and "secondary" relations. The primary square consists of right, duty, no-right, and privilege; the secondary square consists of immunity, disability, power, and liability.[34] Although this article disagrees with the composition of Finan's squares of opposition, it closely follows the symbols which he designed.

From the earliest analysis of Hohfeld's work, commentators have noted that the eight concepts each involve three factors.[35] In 1971, Anderson called

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[33]Anderson, *supra* note 2; Mullock, *supra* note 2. *See also* G. CHRISTIE, *supra* note 8.

[34]Finan, *supra* note 7, at 29-31.

[35]*Jural Relations, supra* note 2, at 228 (using an analogy of two parties, A and B, and a giant to symbolize the state); *Basic Jural Relations, supra* note 3, at 515-16 (legal concepts entail a body of legal rules, the situations of fact on which they operate, and a connecting principle between the two).

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these the "agent," "patient," and the "state of affairs." The actor is the agent, the person who is the recipient of the action is the patient, and the state of affairs is the situation "which the agent is said to bring about relatively to the patient."[36] The symbols for agent and patient are (x) and (y) and the state of affairs is symbolized by (p). Thus (x, p, y) is the basic unit of this symbolic logic.

Two other symbols show the relationships of the units x, p, and y between each other. The symbol "O" indicates that the relationship between x and y is obligatory. Its negation "Ō" indicates that the relation between x and y is not obligatory; i.e., it is permissive.[37]

The symbol "H" governs the state of affairs. "H" is more difficult to define precisely. It indicates whether the state of affairs will be created by the agent for the patient. A simple H indicates that the agent will *do* p for the patient, or that the agent will *create* p for the patient. The negation H̄ indicates that the agent will *not do* p, or that the agent will *not create* p. Mullock called a similar symbol "a 3-place predicate constant signifying the notion of social action."[38]

Finally, in the unit (x, p, y) there must be some method of indicating which party is the agent and which is the patient. Mullock used the symbols (x, p, y) and (x, p, y̲) to indicate that x and y, respectively, were the agents.[39] This article will use the symbol (x, p, y) to show that x is the agent, and y is the patient. The symbol (x̄, p̄, ȳ) will indicate the reverse.

The symbols O, H, and (x, p, y) are sufficient to define all eight of Hohfeld's concepts. Together, these symbols indicate: (1) whether the relationship between x and y is obligatory; (2) whether the state of affairs will be created; and (3) whether x is the agent.

The eight jural relations are symbolized as follows:

Right	O H	(x, p, y)
Duty	O H	(x̄, p̄, ȳ)
Disability	O H̄	(x, p, y)
Immunity	O H̄	(x̄, p̄, ȳ)
Power	Ō H	(x, p, y)
Liability	Ō H	(x̄, p̄, ȳ)

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[36]Anderson, *supra* note 2, at 31.

[37]The horizontal line is the symbol used by Finan. Finan, *supra* note 7, at 29-31. Mullock indicated the same change in value by the letter "N" before the symbol being modified. Mullock, *supra* note 2, at 475-76. Christie used a minus sign to show the same information. G. CHRISTIE, *supra* note 8, at 819-20.

[38]Mullock, *supra* note 2, at 475.

No-right $\bar{\mathrm{O}}\ \bar{\mathrm{H}}\ (x, p, y)$

Privilege $\bar{\mathrm{O}}\ \bar{\mathrm{H}}\ (\overline{x, p, y})$

These symbols are similar to those designed by Mullock[40] and Finan.[41] In particular, Mullock and Finan devised identical symbols for right, duty, privilege, and no-right,[42] although Finan discovered two definitions for duty and no-right.[43]

The use of the symbol (x, p, y) in the list above is the simplest to explain. Jural correlatives necessarily belong to two different parties at any given time. In the list above, when x is the agent for one correlative, then y is the agent for the other, as in the case of power and liability.

Right and duty involve an act or forebearance which will certainly occur because one of the parties is under an obligation to cause it to occur. Similarly, the act or forebearance in the jural relations of immunity and disability will certainly not occur because of the reverse obligation. In both instances, the key idea is certainty, and this is symbolized by "O."

The notions of privilege, no-right, power, and liability each involve the notion of a present freedom from obligation. Mullock, Finan, and Corbin each indicate that these are permissive relations.[44] In these four instances, it is not true that an act will certainly occur, but neither is it true that the act certainly will *not* occur. Because the key element of certainty is missing, these relations are symbolized by "$\bar{\mathrm{O}}$."

In the use of the symbol "H," the focus is not on whether the relation is obligatory, but rather on the product of that relation — the state of affairs. In the jural relations of right, duty, power, and liability, the agent may or must create a certain state of affairs. Thus, these relations take the symbol "H."

Conversely, the jural relations of privilege, no-right, immunity, and disability involve situations where the agent is obligated not to create a certain state of affairs or where the agent is free not to do so. Finan's symbols negate the state of affairs in each of these relations.[45] Williams noted that the idea of privilege, or liberty, involved the idea that one is free not to perform a given act.[46] Goble observed that disability and immunity each involve the absence of power to perform some act by either one party or the other,[47] and Hohfeld

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[40]*Id.*

[41]Finan, *supra* note 7, at 29-31.

[42]*Id.* at 29; Mullock, *supra* note 2, at 476.

[43]Finan, *supra* note 7, at 30.

[44]*Legal Analysis, supra* note 2, at 166; Finan, *supra* note 7, at 30-31; Mullock, *supra* note 2, at 476.
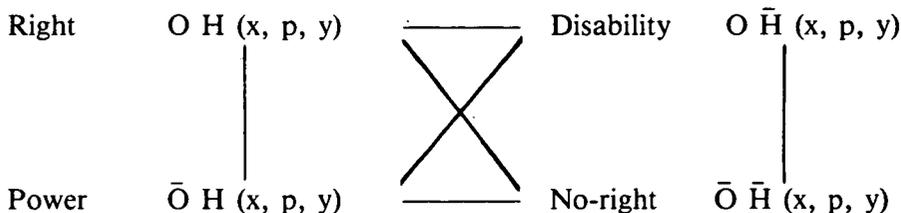
[45]Finan, *supra* note 7, at 29-31.

[46]Williams, *supra* note 2, at 1135, 1138.
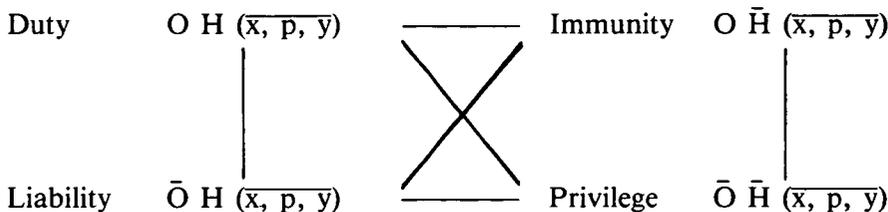
[47]Goble, *supra* note 2, at 540.

wrote that both immunity and privilege involve "freedom from" a given obligation.[48] As all four of these relations require the negation of the state of affairs, they will take the symbol "$\bar{H}$."

B. *The Validity of the Two Squares of Opposition*

On the basis of the informal construction of the cube in the earlier part of this article, and the symbols given to the eight jural relations, the proposed square of opposition for the A side of the cube is as follows:

Right　　O H (x, p, y)　　————　Disability　O $\bar{H}$ (x, p, y)

Power　　$\bar{O}$ H (x, p, y)　　————　No-right　$\bar{O}$ $\bar{H}$ (x, p, y)

The proposed B side of the cube is as follows:

Duty　　O H $(\overline{x,\ p,\ y})$　　————　Immunity　O $\bar{H}$ $(\overline{x,\ p,\ y})$

Liability　$\bar{O}$ H $(\overline{x,\ p,\ y})$　　————　Privilege　$\bar{O}$ $\bar{H}$ $(\overline{x,\ p,\ y})$

The valid logical relationships between the pairs of relationships demonstrate the validity of the full square. In the interest of brevity, this article will provide only some examples of each such relationship and leave the remainder of the inquiry to the reader. Despite attempts to lighten the following text, the proof remains somewhat dry; the author apologizes and asks the reader to see the proof to its end.

There are two examples of corollaries on each square: right and power, disability and no-right, duty and liability, and immunity and privilege. The proof here is nearly intuitive: an act or forbearance which is performed pursuant to an obligation may also be done voluntarily. If *A* is able to demand performance of *B* under an obligation (right), then *A* is certainly able to do the same voluntarily (power).[49]

The jural relations on the diagonals of the squares are contradictories: right and no-right, power and disability, duty and privilege, and liability and

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[48]Hohfeld, *supra* note 1, at 55.

[49]The symbols for immunity and privilege also suggest that Corbin and Hohfeld were only partially correct in stating that an immunity is the freedom from alteration in one's legal relationships. Immunity is apparently more than that — it is a duty not to perform a given act. Thus, if *B* is obligated not to act (immunity), then *B* is necessarily free to refrain from the same act voluntarily (privilege).

immunity. If one jural relation exists, the other must not, i.e., if one is true, the other must be false.[50] Hohfeld basically completed this part of the analysis in his 1913 article. A cannot at once possess an ability to alter the legal relations of B (power) and lack the same ability (disability). B cannot at once be under an obligation to act (duty) and enjoy the freedom from the obligation to perform the same act (privilege).

There are two sets of contraries on the squares: right and disability, duty and immunity. These jural relations may be absent at the same time, but they may not be present at the same time, i.e., both may be false, but both cannot be true.[51] Let us take the example of duty and immunity. In a given legal relation, B may simultaneously have neither a present obligation to act (duty), nor a permanent freedom from such an obligation (immunity). However, the reverse is not true. B cannot at once be under an obligation (duty) and yet enjoy freedom from the same obligation (immunity). The same relations hold true in the case of right and disability.

Finally, there are two sets of subcontraries on the squares: power and no-right, and liability and privilege. These jural relations may be present at the same time, but they may not be absent at the same time, i.e., both may be true, but both cannot be false.[52] Here, power and no-right will serve as the examples. A may have, at the same time, no present obligation owed by another (no-right), but yet have the ability to create such an obligation in the future (power).

However, if we assume that both of these relations are absent, the analysis soon reaches an absurd result. Assume that A has no power to alter the legal relations of B; in such a case, A is under a disability. Assume also that it is not true that A has no present obligation from B; in such a case, A holds a right. Thus, these assumptions produce mutually contradictory conclusions. We have already seen that A cannot at once have a present claim to performance by B (right) and no claim to such performance (disability); these two jural relations are contraries, and it is the property of contraries that they cannot be true at the same time.

Thus, each of the proposed squares is both a true square of opposition and a valid description of Hohfeld's ideas. It remains to bind the cube together, front and back, and Hohfeld's discussion of the jural correlatives is sufficient to do this. Jural correlatives appear on corresponding corners of the cube. If A has one correlative, then B must necessarily have the other.

However, it is instructive to show how the diagonals of the cube symbolize

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[50]Finan, *supra* note 7, at 30; Mullock, *supra* note 2, at 476. *See* S. BARKER, THE ELEMENTS OF LOGIC 47 (1965).

[51]S. BARKER, *supra* note 50, at 47; Finan, *supra* note 7, at 30.

[52]S. BARKER, *supra* note 50, at 47; Finan, *supra* note 7, at 30.

familiar legal ideas. The diagonals which cross through the center of the cube, linking the jural analogs, indicate the relation between a cause of action and its defenses. In *A*'s action based on a present right, *B*'s present freedom from an obligation (privilege) is sufficient to defeat *A*'s claim.

However, *B*'s privilege would not be a sufficient defense to a cause of action based on *A*'s power; *A* might have the present ability to create a future duty in *B*. To defend against a power, *B* must assert a full immunity from change in *B*'s legal relations. This power/immunity relationship is symbolized by the corresponding diagonal across the cube.

The diagonal between duty and no-right illustrates a relation which Hohfeld does not mention but which again shows the usefulness of this set of eight concepts. A no-right is raised to defend against an alleged duty in the law of equity in an action based on *quantum meruit* or unjust enrichment. *B* claims that he has performed and that he was under a duty to do so; the implication is that *A* held a right to performance. However, *A*'s defense is that he had no such right and, in fact, had no ability to require an obligation of *B*.

There is one way remaining in which the cube might contain an arbitrary arrangement of Hohfeld's ideas. The correlatives on the "A" and "B" sides might be transposed; for example, should disability appear on the front of the cube and immunity on the back? Such a reversal only reveals an absence of any logical connection with the other concepts on the new hypothetical square of opposition.

Assume that disability and immunity are reversed. The resulting design suggests that there is an "immediate inference" on the *A* side between immunity and no-right — that the existence of an immunity immediately implies the existence of a no-right. Thus, the following statement would be valid: *A* is free from any alteration of his legal relationships by *B* (immunity), and, therefore, it is necessarily true that *A* has no present ability to alter any of the legal relations of *B* (no-right). There is simply no relationship between these two statements. Using the same altered square of opposition or by reversing other pairs of correlatives, a test of the relations on the hypothetical cube reveals a similar absence of logical connection.

This completes the proof that the Hohfeld's Cube is a valid depiction of the eight jural relations and that the image symbolizes real underlying legal concepts. However, before leaving this proof, it is interesting to note that Hohfeld's concepts can also be effectively symbolized by a Venn diagram.

Designed by the nineteenth-century logician John Venn, the diagrams are a method of creating an image of syllogism.[53] The method uses three circles to depict the major, minor, and middle terms of a syllogism. The three circles overlap, creating seven areas within the circles, and one open area outside it.

In this instance, let the three circles drawn below indicate the three symbols which define Hohfeld's ideas — O, H, and (x, p, y). If a relationship is obligatory, it appears inside the upper circle; if the relation is permissive, it falls outside it. If the agent will create the state of affairs, the jural relation appears within the lower left circle; if the agent will not create the state of affairs, the relation apears outside it. Finally, if x is the agent, the jural relation appears within the lower right circle; if x is not the agent, the relation appears outside it.

Hohfeld's eight jural relations thus appear on a Venn diagram:
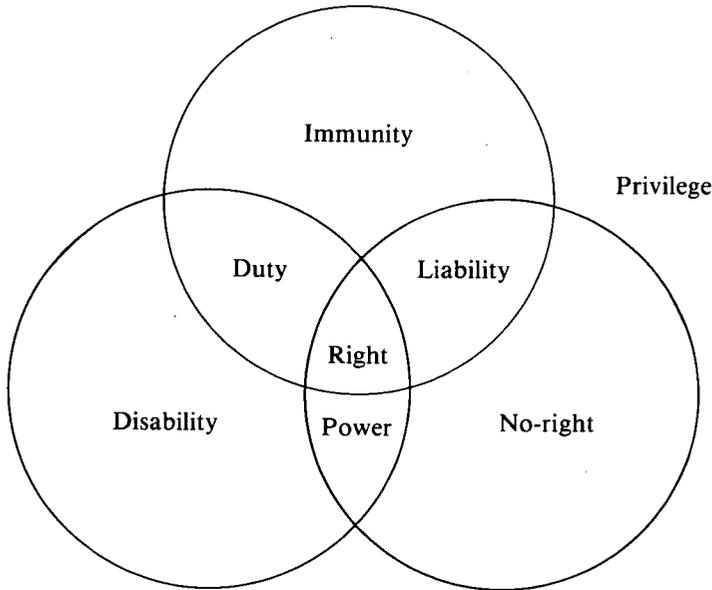
The diagram may have interesting applications for future analysis of Hohfeld's work.

IV. A SUGGESTED APPLICATION FOR HOHFELD'S CUBE

The cube demonstrates that Hohfeld's ideas fulfill his original intention — to clarify legal thinking. Once it is known that there are eight and only eight jural relations, that there are well-defined relationships among them, and that these relationships behave in predictable ways, then the analysis of all legal questions, even the most complex, becomes easier. Two disputing parties are able to define their unsettled question more precisely, and the court, agency, or legislature is able to settle the same question with correspondingly greater precision.

Of greater practical interest, however, is the possibility that Hohfeld's Cube may enable a computer to draw analogies. In 1967, Cullison observed the analytical precision which could be achieved "if Hohfeld's system were turned over to computers."[54] At present, a computer can retrieve information seem-

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[54]Cullison, *supra* note 2, at 573.

ingly with the speed of light, but it cannot analogize. A computer can search for a precise word, phrase, or number, but it cannot search for something "just like" a given legal question.

The three symbols O, H, and (x, p, y) lend themselves well to the binary lanauge system used in computers. An unmodified symbol, such as (x, p, y) can be given a value of zero, and its negation $(\overline{x, p, y})$ assigned a value of one. Thus, the jural relation of liability, which is symbolized by $\overline{O}$ H $(\overline{x, p, y})$, becomes (1, 0, 1) in binary language.

The jural relations thus translate into binary language:

Right	O H (x, p, y)	(0, 0, 0)
Duty	O H $(\overline{x, p, y})$	(0, 0, 1)
Disability	O $\overline{H}$ (x, p, y)	(0, 1, 0)
Immunity	O $\overline{H}$ $(\overline{x, p, y})$	(0, 1, 1)
Power	$\overline{O}$ H (x, p, y)	(1, 0, 0)
Liability	$\overline{O}$ H $(\overline{x, p, y})$	(1, 0, 1)
No-right	$\overline{O}$ $\overline{H}$ (x, p, y)	(1, 1, 0)
Privilege	$\overline{O}$ $\overline{H}$ $(\overline{x, p, y})$	(1, 1, 1)

With such information in a program, the computer may search for all statutes which create a jural relation symbolized by (1, 0, 1). Such a command in itself, of course, would be much too general; in any jurisdiction, there are scores of statutes which create a liability of one sort or another. However, the computer would not require the word "liability" to locate a pertinent statute. I could find all relevant liabilities by searching the ideas themselves. Such uses of Hohfeld's work lie in the future, but other writers have suggested this use of the eight jural relations, and the possibility shows promise.

The eight jural relations defined by Wesley N. Hohfeld thus divide and unite the legal world. Precisely defined, they form a coherent structure which allows us to see each of the concepts in relation to all of the others.