THE LAW
OF THE
OCTAVE
in the World and the Word

E. J. PACE

THE LAW of the OCTAVE

IN THE WORLD AND IN THE WORD

By

E. J. Pace, D.D.

Chicago

The Bible Institute Colportage Association

843-845 North Wells Street

Prefatory Note

THE following pages contain a reprint of two articles which appeared in the *Moody Bible Institute Monthly* giving the substance of an illustrated lecture delivered by the writer before audiences in many parts of the country.

Repeated requests for the material contained in this lecture have seemed to furnish warrant for the publication of the articles in the present form, although by so doing the writer is aware of the weakened force of the argument, due to the want of the visible and audible appeal of the colors and musical tones which form an essential part of the demonstration. It is hoped, however, that those who have seen and heard the lecture on the "Law of the Octave" and beheld its application to the exegesis of biblical passages will find in the following pages an additional means of retaining the impressions made.

A chapter has been added to the articles above referred to showing the symmetry of structure in that great passage in Romans where the meaning of Calvary is explained—chapter three, verses twenty-one to twenty-six. The latter has already appeared in substance in the *Sunday School Times*, although accompanied by a diagram of different structure. Thanks for the privilege of using it is hereby expressed.

At this point it is the writer's pleasant duty to accord the credit, humanly speaking, for the discovery of this unique apologetic to the Rev. John N. Wright, D. D., of Wooster, Ohio, who for thirty-two years served as a Presbyterian missionary in Persia.

In that land of Moslem domination Dr. Wright found himself, upon the threshold of his every approach to a Mohammedan, confronted by an insuperable prejudice against the doctrine of a Triune God. Necessity thus drove him to a re-examination of this cardinal truth of the Christian revelation, the result of which was the discovery that not only does the Bible explicitly reveal the Trinity of the Godhead, but saturating its literary structure are innumerable trinities-in-unities, arranged in complementary relations analogous to the law of the octave, the law that underlies all the harmonies in the realms both of music and color; yes, and the very elements of chemistry, which make up the material universe, are found to fall into the same law of harmonious relations. Underlying this law, as its irreducible minimum, is the idea of a trinity in a unity. Thus the God who has revealed Himself so gloriously in creation, and so compassionately in redemption, has left His "watermark," so to

speak, upon the pages of both His world and His Word, attesting the fact of His triune nature.

Dr. Wright has not only blazed the trail into this new country, but has mapped out numerous passages in the Bible which fall naturally into the beautifully symmetrical form of the octave, and the writer, with others, has "entered into his labors."

If only it please Him, whom we earnestly seek to glorify, to bless this humble effort to the confirming of the faith of His children in the inerrancy of the Word of God, there will be abundantly answered the devoutly prayed wish of

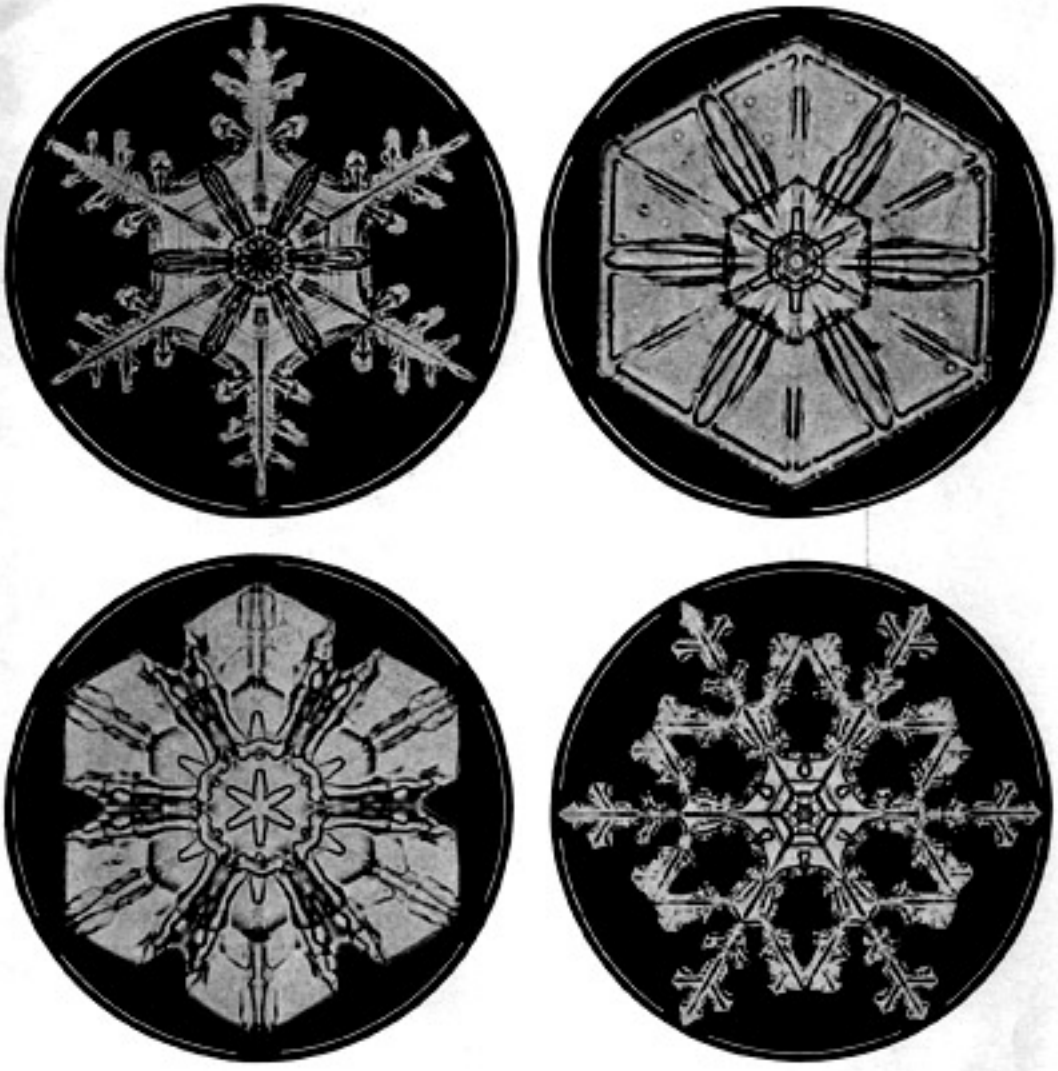
THE AUTHOR

Contents

To a Snowflake

What heart could have thought you!
Past our devisal
O filigree petal!
Fashioned so purely,
Fragilely, surely,
From what Paradisal
Imagineless metal
Too costly for cost.
Who hammered you, wrought you
From argentine vapor?
"God is my shaper!
Passing surmisal
He hammered, He wrought me
From curled silver vapor
To lust of His mind.
Thou couldst not have thought me
So purely, so palely,
Tinily, surely,
Mightily, frailly,
Insculped and embossed
With His hammer of wind, and His graver of frost."

—*Francis Thompson.*



"Hast thou entered into the treasures of the snow?"—Job 38:22.

The material comprising the following lecture is available in the form of stereopticon slides, for sale or for rent, in whole or in part, by the Geo. Bond Slide Co., 6 E. Lake St., Chicago, Ill. A detailed description of each slide accompanies the set, making simple and easy their use by pastors, Bible teachers, and others.

The Law of the Octave

The Law of the Octave in the World

PART I

OF ALL the displays of fathomless skill with which the Divine Artificer subdues to awe the soul of man, what can equal the snow-crystal! Let the reader imagine, if he can, what countless billions of snowflakes can fall during one short hour upon a single acre of ground, and then reflect that each crystal is a distinct creation of God, possessing an individuality all its own, and treasurers of artistic design little dreamed of, until the invention of the microscope and the camera enabled man to see and permanently hold the record of these fleeting forms of loveliness.

That pioneer explorer of the wintry storm, Mr. Wilson Allwyn Bentley, of Jericho, Vt., has laid the world under lasting debt for his notable achievements in the field of photomicrography. For a quarter of a century he has been photographing snow-crystals through a microscope, and although he has thus photographed more than ten thousand specimens, he declares that he has yet to find two snow-flakes exactly alike! And in what bewildering varieties of pattern they come! Some are of the feathery type, so frail and delicate that in a breath they are gone; others are of the more sturdy disc formation, embroidered with all sorts of lines, loops, dots, and intricate tracings, always arranged, however, in the perfectly balanced symmetry of a six-pointed star or a hexagon. And to think that our Father makes these in a storm!

The snow-crystal furnishes us our best design for illustrating the law of the octave, since each flake is the outgrowth in six directions of an original central nucleus. This central nucleus, always present, binds, as it were, the sixfold ramification into a unity, thus giving us the number *seven*. (Figure 1.)

Is it not a curious fact that practically all mankind from the remotest antiquity have uniformly associated the number *seven* with things sacred and Divine? The ancient Sumerians, the Babylonians, the Hindoos, Chinese, yes, and our own savage forbears, the Celts and the Teutons, held in a kind of reverence this mystic number, to whom it meant completeness, finality, and God in His relations with man.

The ancient Babylonians borrowed from the Sumerians before them the idea that *seven* is equivalent with "all." The seven-storied towers of Babylonia represented the universe. "Seven was the expression of the highest power, the greatest conceivable fullness of force, and hence was early pressed into the service of religion."

In the most ancient of all Chinese writings, the *Yi Ching*, a book hoary with age in the days of Confucius, there is a significant passage which translated reads: "By the constant return of the seventh day we may discern the mind of heaven."

Many attempts have been made to account for this curious fact, some finding in the periodical phases of the moon, coming in four times seven days, or the "seven planets," etc., the probable origin of this ascription of mystic significance to the number *seven*. Others suppose it to be a mere coincidence, a curious fact of human experience for which no accounting can be made.

It is not a part of our purpose to ex

plain why men in all ages have instinctively "sensed" the significance of this number, but to show reasons why they have sensed rightly, reasons that lie im-

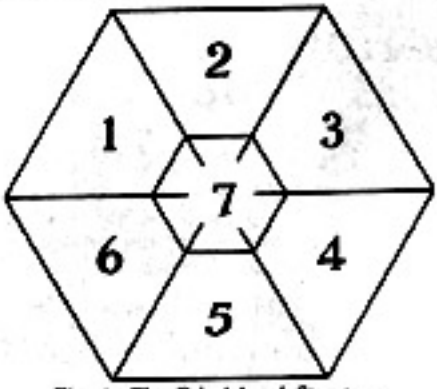


Fig. 1—The Principle of Structure.

bedded in the very nature of things, in the nature of God Himself and in man's own constitution.

We begin with the

HEPTAD OF LIGHT

Everyone is familiar with the phenomenon of the solar spectrum. A beam of sunlight passes through the beveled edge of a piece of glass, and the result is the breaking up of that beam of white light into its constituent elements of varying wave lengths, long waves at the top, short waves at the bottom. The colors are *six* (the sevenfold classification of Isaac Newton having been long discarded) and they are: crimson, vermilion, yellow, green, blue, and violet. Three of these are primary and underived; vermilion (the brilliant reddish orange of the sun just before it sets), green (a pure crystalline emerald), and violet.

God who made the eye adjusted its delicate mechanism to these three primary colors; for projecting out upon the retina of the human eye are peculiar, minute nerve terminals, known as "rods and cones." Myriads of these are found on the dark inner curtain of the organ of sight, and they are of three kinds: those which respond to vermilion, those which respond to green, and those which answer to violet. All other color sensations, so the oculist tells us, are the blendings one with another of these three classes of sensation.

By no possible combination of lights can any one of these three colors be educed; they are underived, primal, fundamental.

But not so the three remaining colors. These are secondary and the offspring of the primaries. By the proper mixture of vermilion and violet a crimson, wondrous deep and rich, is produced. By the blending of green and vermilion a brilliant yellow emerges, while the combining of green with the violet gives a clear, cool sky-blue.

Viewing color, however, from the standpoint, not of pure light, but of pigments, or paints, any school-boy is aware that exactly the opposite is true. His three primary or underived colors are: Crimson, yellow, and blue. These he mixes, the crimson and the yellow to produce the orange; the yellow and the blue to get green; blue and crimson to get the violet.

Thus it appears that the primaries and secondaries of color are *interchangeable*, depending upon the standpoint, whether of pure white light or of chemical agents in pigments. In passing, it is interesting to note that while the mixture of vermilion, green, and violet lights

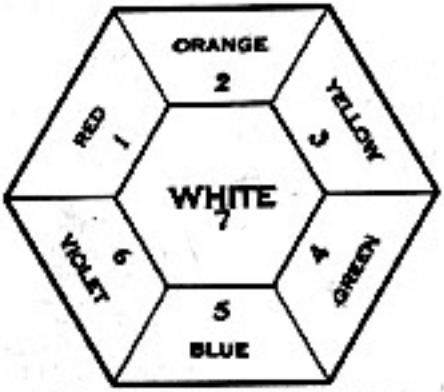


Fig. 2—The Colors of the Spectrum.

gives us the original whiteness of the sun's light, an attempt to get white from the blending of the three pigment primaries results in *neutral gray*, which at best can only be styled "white of a low

tonality." As though the creature would answer by reflexion the holy whiteness of the Creator, but only reach poor, weak, dull gray!

Figure 2 gives the arrangement of the colors of the spectrum in the form of a snow-crystal; a triad of "warm" hues above, and a triad of "cool" hues below. Try looking at some object through a prism of glass and note how the six colors divide. Three, the triad of "warm" colors, appearing on the one side, while the remaining three take their place on the other side, but *reversing* the order from that which we see in the grouping of spectrum, as follows: Yellow, orange, red (the object), violet, blue, green.

As I have arranged them within the snow-crystal pattern, however, there appears at once the complementary relationship of these colors. The *complement* of a color is that color which when united with it produces white in the case of light, or neutral gray in the case of pigments. Thus crimson has for its complement green, vermilion's complement is sky-blue, while violet and yellow complement each other.

So much for the heptad of light, conforming perfectly, as we have seen, to the structure of the snowflake, with its central nucleus unifying the six outer extremities. Indeed, a snow-crystal, we are told, is made up of myriads of infinitesimal prisms of ice, and these are blue, red, green, and violet, etc., from the blending of which colors snow gets its brilliant whiteness.

THE OCTAVE OF SOUND

Both light and sound are due to vibrations, or wave-pulsations, the former so inconceivably rapid and short as to hopelessly challenge our imagination; the latter, because slower and longer, come more easily within our grasp and our instruments of measurement.

When a vibrant body such as a cello string sends forth pulsations into the air, the rapidity of the vibrations determines for us the *pitch*, or tone; the length of the waves the *loudness*. When the number of vibrations is *doubled* the result is an octave. When the cello string is a meter in length and its number of vibrations is 120, we call the resultant sound *do*. When we divide the string exactly into halves the number of vibrations of the half-meter string is found to be just twice those of the string a meter long, or 240 vibrations per second, and the resultant audible sensation is *do* an octave higher. Were we to go on dividing the string, this time into three equal

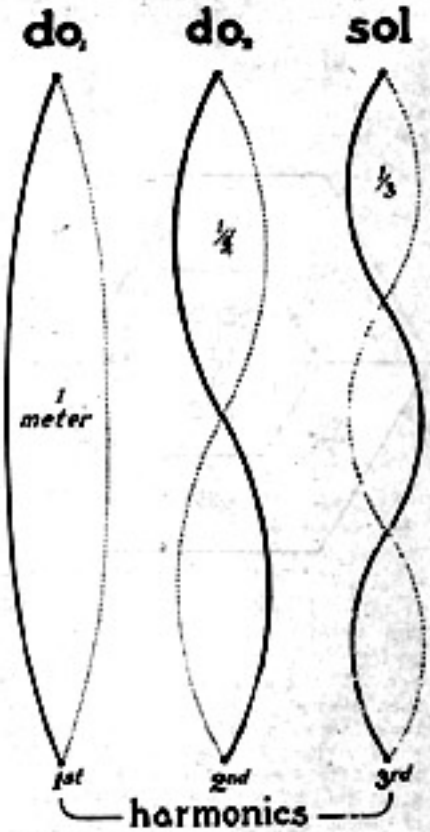


Fig. 3—Illustrating the Law of Harmonics.

parts, we would hear a tone which answers to *sol* just above, and if measured would be found to vibrate 360 times a second. (See figure 3.) By continuing this process of division, the rate of increase in the number of the vibrations follows exact mathematical ratios in orderly progression, until finally we have *seven* stages, steps, or tones within the octave, which bears the technical name of "diatonic scale." Not one in a thou-

sand, I suppose, ever asks himself the question why there should be these seven steps, or tones, or why they should be arranged as we have them, in the order and at the intervals we have so often sung them. They are commonly represented by the syllables *do, re, mi, fa, sol, la, ti.* (*Do* above begins a new heptad.) See figure 4 for the arrangement of these tones in the form of a snow crystal. The termini of the octave which encompass the range of its varied ratios of vibration are *do* and *do*, the latter of which, as explained above, containing the lower one, because it vibrates twice as fast.

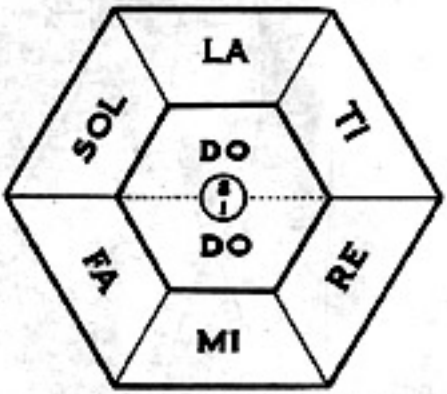


Fig. 4—The Notes of the Scale.

It takes a practiced ear to detect the two notes that reverberate when a perfect octave is struck; they vibrate as one. The one outstanding difference, then, between the heptad of color and the octave of sound as we have arranged them is that in the case of the color heptad this central nucleus is an undivided unity, whereas with the octave of sound this nucleus is divided into halves; but the two, while distinct, are nevertheless in *unison* and therefore to all intents and purposes one. We shall see ere long the beautiful significance and the marvelous application of this in the octave structure of many passages of Scripture. We are to keep in mind the while that even though the name "octave" indicates eight, yet the number of the octave is really *seven.*

The question was raised above why it is that there are *seven* notes in the scale. May these not be the result of mere coincidence, or due to the fact that we have become accustomed to this arrangement and number? Have not other nations devised other musical scales, and do not some of these differ from ours, as for example the Chinese? Why may not theirs be just as good as ours?

In answer to the above it may be only necessary to address attention to the mathematics of the ratios of the seven notes of our scale, to see that the arrangement is neither arbitrary nor due to mere coincidence. On the contrary, they are based on laws as rigid as numbers themselves, to which the ear of man is so nicely adjusted as to result in pain if these ratios are disturbed. The ratios in sufficient number to illustrate are here given: *do* is to *do* (an octave above) as 1 is to 2; *do* is to *sol* as 2 is to 3; *do* is to *fa* as 3 is to 4; *do* is to *mi* as 4 is to 5, while *do* is to *re* as 4 is to 4 1-2. We need go no further, for the remaining notes are similarly related. See figure 5 for the interesting "tetrachords" of the ancient Greeks, which, in

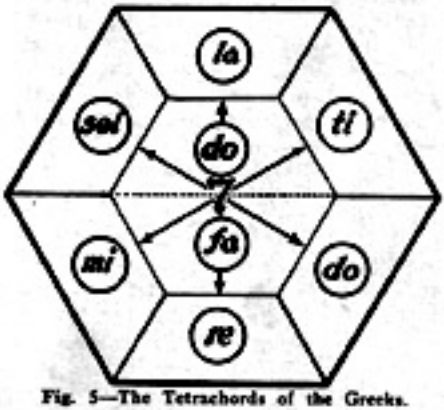


Fig. 5—The Tetrachords of the Greeks.

a manner analogous to the interchangeableness of the primary and secondary colors viewed first from the standpoint of light and then of pigments, are themselves interchangeable. *Do, re, mi, fa* can just as well be called *sol, la, ti, do,* and vice versa.

It is interesting to note that man did

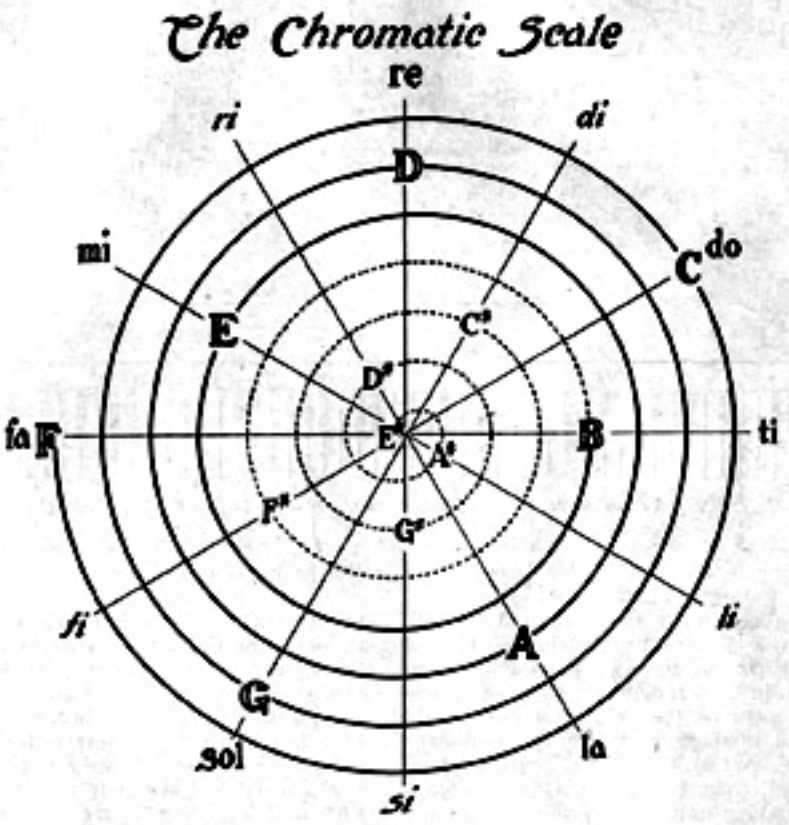


Fig. 6—Showing How the Number Seven Underlies the Musical Scale.

not evolve this standard scale all at once, but it was a process involving centuries. As noted above many peoples back in ancient times have built up musical scales, and these have by no means been uniform. Their efforts, though headed right, proved faulty. Painfully they groped their way until the masters of the last three centuries perfected what the modern science of physics has demonstrated to be founded on the eternal bed-rock of the laws of mathematics. While it is true that various nations have developed differing scales, it is yet deeply significant that all such scales of which we have knowledge have at least three things in common: (a) an octave, (b) a "perfect fifth" (*do sol*), and (c) a "perfect fourth" (*do, fa*). It will be remembered as pointed out above that the "perfect fifth" (*do, sol*) results from dividing the string into *three* parts; and the "perfect fourth" does not emerge, according to the law of harmonics, until we have divided the string into *seven* parts!

The rest of the scale, namely the "sharps," come with easy and necessary sequence and follow the same fundamental law of mathematical ratios, the whole resulting in what is technically known as the "chromatic," or color scale. (See fig. 6.)

In order to demonstrate further how the number *seven* underlies all the relations of the ratios of vibration, I propose

at this point to build *seven* octaves successively in the form of a spiral. (Fig. 6.) Suppose we begin at F and count seven semitones around the spiral, and we arrive at C; measuring another *seven* and we come to G; *seven* more bring us to D; seven more to A; and in like manner we get E and B. But these are all the notes of the "diatonic" scale, encompassed as we have seen by intervals of

To illustrate (figure 7), suppose we begin on the extreme left of the keyboard at G flat, or the key of **six flats**, and count by intervals of seven semitones upward, and we come successively upon the keys of 5, 4, 3, 2, 1 flat. Seven more brings us to C, which is neither sharp nor flat. In like manner by intervals of seven semitones we come to the sharp keys, 1, 2, 3, 4, 5, 6, but the

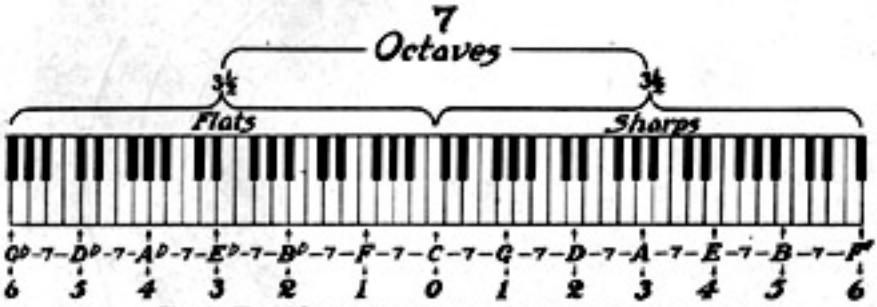


Fig. 7—How "Seven" Underlies the Symmetry of the "Keys."

seven semitones in three and one-half octaves. Let us proceed in like manner measuring by *sevens*, and we will encompass in the remaining three and one-half octaves the "black" notes on the piano, and so complete the chromatic scale. When we reach E sharp we have at last come around to where we started, having until now encountered no key more than once. (E sharp is the same as F.) Thus we find we have traveled three and one-half octaves by intervals of *seven* semi-tones (3 1-2 tones) and the result is the diatonic scale; while three and one-half octaves of like intervals finish the chromatic scale, *seven* octaves in all! Does it not begin now to appear why from earliest times the number *seven* has always been sensed as somehow the number of finality, completeness, "all"?

But in this connection let us observe another curious fact. As is well known, any one of the notes on the keyboard is capable of beginning as its basal note a new octave, in which case, however, necessity is upon us to "sharp" certain keys, the number of such keys being sharped or flatted giving the name to the key.

key of six sharps is F sharp, which is the same as G flat; yet with G flat we began, and in the process touched no key, save the last, more than once. Another curious fact is seen in the fact that each letter except C occurs in the above enumeration twice. If we add the numbers affixed to each pair of letters we find that in every instance they total *seven!*

A FEW SIMPLE FACTS ABOUT HARMONY

Up to this point we have been considering the ratios of sound vibration as they have occurred successively, which is *melody;* we will proceed now to notice a few facts about these ratios when the notes are struck simultaneously, which constitutes harmony. As we have noticed the preponderance of the number *seven* in our consideration of melody, it will not be surprising if we find the same phenomenon in the realm of harmony.

If one strikes a single note on the piano, say middle C, there is a resulting sensation of pleasure. But if E, or *mi*, is struck with it the pleasure is heightened. But there is something in the soul

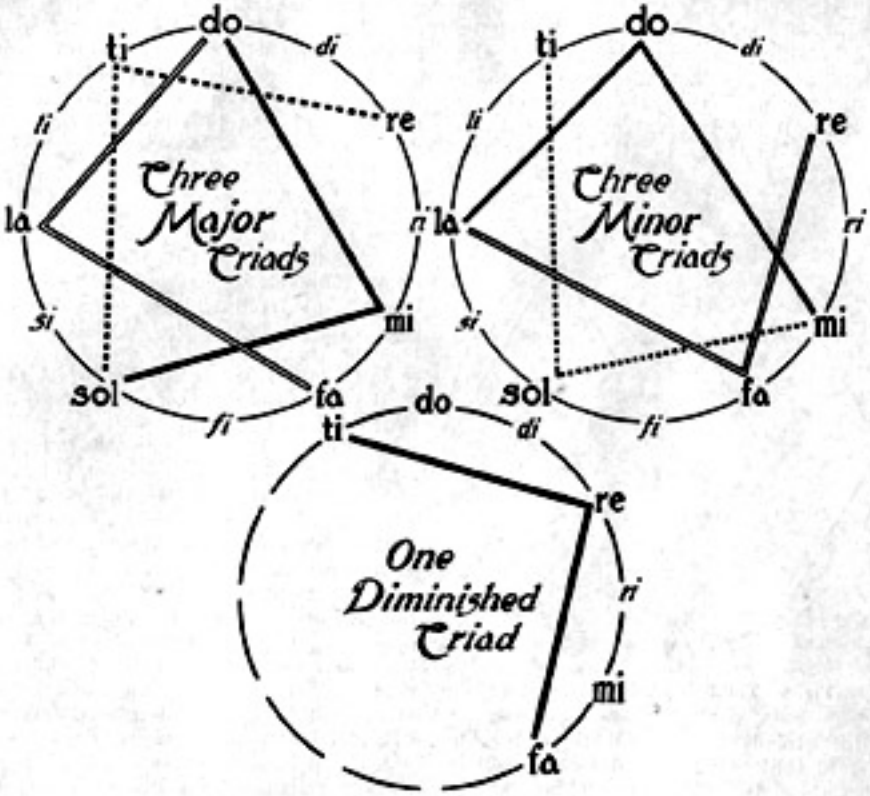


Fig. 8—The Seven Triads, or Chords.

that is dissatisfied even with this. There is a yearning, a sense of want, until the third note is struck, namely G, or *sol*, when the soul seems to rest satisfied, and we have the basic chord, or "triad," as it is called.

There are within an octave just *seven* of these triads, or chords, and with one exception each triad encompasses *seven* semitones. Bear with me if I repeat that this interval, *do* to *sol*, results from the dividing of the string into three parts, for my purpose is to show that fundamentally the laws of music are based on the idea of a trinity in unity.

These seven triads in a manner analogous to light fall into three plus three plus one classes; for *three* of the triads are primary, or "major," chords; *three* are secondary, or "minor," chords; while the seventh is known as the "diminished" triad.

The three primary triads are: *fa, la, do; do, mi, sol;* and *sol, ti, re.* The three secondary; triads are *re, fa, la; la, do, mi;* and *mi, sol, ti.* The seventh or diminished triad is *ti, re, fa.* (See figure 8.)

These seven triads I have placed within the snow-crystal formation to bring out the fact that the three major triads bear a relation to the three minor triads analogous to the relation of primary and secondary colors. (See figure 9.) It will be noted that the "relative minor" of each major chord is diagonally opposite, while the seventh, or diminished chord, occupies a position

midway between. The reason for this will appear if we examine figure 8 once again. Beginning with the major triads, and reading successively around the circle of *seven* notes of the diatonic scale, we note that the three chords use up all the interval except that between *re* and *fa;* in like manner the

Fig. 9—The Seven Triads Assembled.

minor triads use up all the intervals except that between *ti* and *re;* but it is just these two intervals which combine to make the diminished triad, and therefore it can be said to supplement what is wanting in the two groups of triads, binding together, as it were, the trinity above and the trinity below. Observe, furthermore, that while the major triads have *seven* semitones within their termini, their order is four plus three, while in the case of the minor triads the order is three plus four. The diminished triad, it will be observed, has three plus three semitones.

Now not only has each of these chords *three* notes, but each is also capable of *three* positions; e. g., *do, mi, sol* is the original position of the tonic chord, but it can be played in two other positions, *mi, sol, do* (first inversion) and *sol, do, mi* (second inversion); and so with all the other triads.

But the fact of deepest significance is yet to be noted, for we are approaching what may be rightly termed the irreducible minimum of all the laws of harmony in music, and with a symbolism as clear and unmistaken as the light of the sun we read in these "raw materials of song" the story of God in His relations with man.

A glance again at figure 9 will be necessary. As has been pointed out, there are three major triads and three minor triads; but not only are the three above reducible to *one*, but the three below are also reducible to *one*—in each case a *trinity in a unity!* For it will at once be seen that *fa, la, do* in the key of C is *do, mi, sol* in the key of F, and in like manner *sol, ti, re* is *do, mi, sol* in the key of G. And so with the minor triads: *re, fa, la* in the key of C is *la, do, mi* in the key of F; and *mi, sol, ti* in the key of C is *la, do, mi* in the key of G. I would propose, therefore as the irreducible minimum of all the laws of harmony three fundamental triads—one major chord; one minor chord, its "relative minor," mark you; and one that is *mediary*, partaking as it does of both the major and the minor, the diminished chord. And what a radiance of symbolism we have here! Step to the piano and strike that major chord, *do, mi, sol*, and listen to its resonance, its firmness, its suggestions of independence and of things fundamental and basic. Strike now its "relative minor" and listen to the plaintive, wistful resonance. The chord is weak, leaning, dependent upon the surer, firmer major above. What have we here in language as plain as can be but the basic facts of revelation that God exists a trinity of persons in a unity of nature; that this eternal, uncreated One, God, has made man in his own image, a three in one being (spirit, soul, and body), who alone of all God's earthly creatures has the capacity for knowing, loving, and serving God. How marvelously suggestive the major chord is of the triune Deity above, and the minor triad of tripartite man below!

But what of the mediating chord that lies between (see figure 10), which as we have seen partakes of the nature of both the upper and the lower? The

symbolism is at once apparent: it is Jesus Christ our Lord, Son of God, Son of man, the sole Mediator between God and man. Now all well written music is simply the interplay of these major and these minor triads, and they pass from one into another by the mediating triad. Did He not Himself say, "No man hath seen God at any time; the only begotten Son, who is in the bosom of the Father, he hath revealed him"; and again, "No man knoweth the Father, save the Son and he to whom the Son willeth to reveal him"; and yet again, "I am the way, the truth, and the life; *no man cometh unto the Father, but by me*"!

We shall see more of this glorious symbolism when we come to the consideration of the law of the octave in the Scriptures, for the law of the octave is the *law of harmonious relations*, whether in the realm of music or of creation or redemption.

Before leaving the subject of harmony in music I will ask the reader to observe one thing more. Did you ever hear a song *end* with that diminished triad? Never! It simply cannot rest there. Take the long-meter doxology and try ending it with the next to the last chord. Why, every yearning in your soul cries out for the fundamental basic chord, *do, mi, sol*, as the final resting-place of the song. What, my readers, do we have here but the glorious truth in symbolism, that the Son of God came to bring us into reconciliation with the Father, and He does not rest until all enemies, all things are brought under, and He Himself is subject unto the Father! "For Christ also hath suffered for sins, the just for the unjust, that *he might bring us unto God*." "And he is our peace (harmonious relations) having made peace by the blood of his cross."

A SUMMARY

The aim of the foregoing article was the elucidation of the law of the octave, the law of "harmonious relations" as it is found to exist in the realm of light and sound. We there saw that underlying this law as its ultimate basis is the idea of a *trinity in a unity*.

Three primary, or underived, colors were found to issue by proper blending into three secondary, or derived, colors; these two triads of hues merging into the *seventh*, white light.

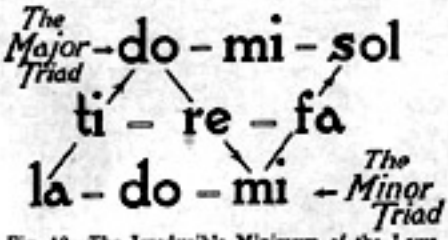


Fig. 10—The Irreducible Minimum of the Laws of Harmony.

In like manner we found a scale of *seven* musical tones blended by threes into *seven* chords, or triads. Three of these triads were primary; three were their complementary, "relative minor" chords; while the *seventh*, the diminished triad, by supplementing what was wanting in the upper and the lower groups of three chords, could well be said to integrate the heptad into a unity.

Furthermore, these *seven* triads were found to encompass *seven* semitones of the musical scale, except the *seventh*, and each was capable of being played in *three* positions. The *three* major triads we saw to be reducible to *one*, and likewise the *three* minor triads. Finally all *seven* of these triads are the groupings of only *seven* fundamental notes, or tones, of the "diatonic" scale, the relations of which are determined, not by the mere caprice of chance, but in strict accord with mathematical laws.

The purpose of the present article is to show that the same law of the octave underlies much of the structure of Scripture, a fact which we have every reason to expect, if, indeed, as the church has always maintained, the Author of the world is the Author of the Word. Before examining the Bible with this intent, however, the reader will kindly bear with me if I invite one more glance at the book of nature.

The Law of the Octave in Chemistry

In our brief survey of the few simple facts of color and of music we were

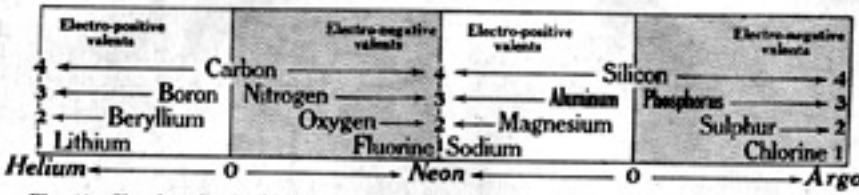


Fig. 11—Showing the Ordered Symmetry of the First Two "Octaves" of the Chemical Elements.

dealing with the *vibrations* of matter; we propose now to look beyond the phenomena of vibrations to matter itself, where we will encounter the same law of symmetrical arrangement we have seen in our survey hitherto. The law of the octave has been found to dominate the whole range of chemical elements in their relations with one another. I refer to the marvelous "Periodic Law of the Elements," a phenomenon of chemical science so wonderful that the eminent British chemist, Sir William Crookes, exclaimed: "I am convinced that whoever grasps the key to the periodic law will be permitted to unlock some of the deepest mysteries of creation."

Many and varied have been the attempts to visualize the "periodic law," any one of which would have served to illustrate it here. My only apology for it in this new form is that it falls so naturally into our already familiar snow-crystal formation, the hexagon with its integrating center.

THE PERIODIC LAW

In brief the periodic law is as follows: (1) All chemical elements except six are found to have affinities with other chemical elements, with which they unite in a great variety of ways. (2) All the *active* elements divide into two great classes according to their reaction to the influence of the electro-magnet. They divide into electro-*positive* and electro-*negative* elements. (3) The measure of their capacity to unite with other elements is termed their valency. An element is said to be *uni*-valent when its atoms unite with single atoms of another element; it is called *di*-valent when an atom takes on two others, *tri*-valent three, etc.

Now, when the elements are arranged in the ascending order of their weights, they are found to fall into groups analogously to the principle of the octave of music.

For the purpose of illustration I have assembled in figure 11 the elements comprising the first two octaves of the chemical elements.

The list begins with helium, the first of the *zero*-valent elements, and the lightest but one of all the eighty-eight or more elements yet discovered. Hydrogen, the lightest of all, seems to fall outside the arrangement of the periodic law. Next above helium, whose weight is 3.99, comes the *uni*valent lithium (Li) with an atomic weight of 6.94; then *di*valent beryllium (Be), weight 9.1; followed by *tri*valent boron, whose weight is 11.0. These three constitute the first triad of electro-positive elements. When we reach carbon (C), weight 12.005, we encounter the first of twelve neutral elements, having four positive valences and four negative. Passing on to the side of the electro-negative elements we come to a triad of them, nitrogen (14.01), oxygen (16), and fluorine (19) with negative valencies of 3, 2, 1, respectively, and so finish the first heptad of active elements. Between the first and second heptads we find the second zero-valent, neon (20.02), after which is an ascent and a descent exactly as in the first heptad, a triad of positive elements balanced by a triad of negative elements, the two triads being united by the second neutral, silicon.

In figure 12 the whole gamut of chemical elements is arranged in the order of their atomic numbers by heptads, the electro-positive lying on the left, or white side, of each hexagon; the electro-negative elements lying on the right, or black, side; while the neutral quadrivalents occupy the gray centers. The transitional zero-elements lie in their proper order between the several heptads.

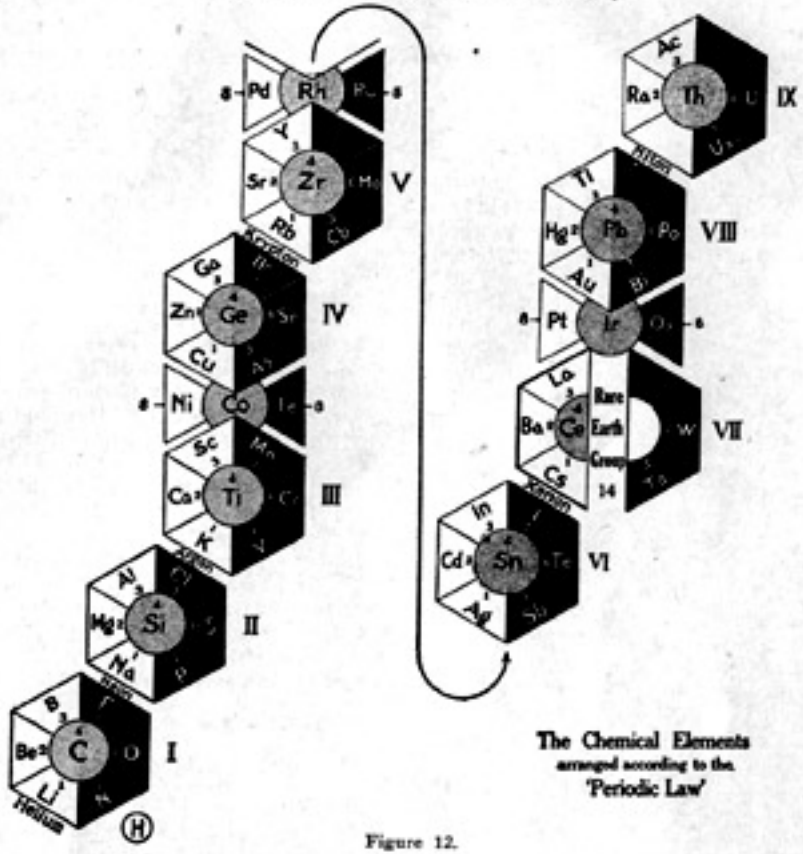


Figure 12.

It is of interest to note that after we have passed through *three* zero elements, and finished the *third* heptad, instead of encountering another inert gas we find a *trinity* of elements standing together. They are the negative iron (Fe), the neutral cobalt (Co), and the positive nickel (Ni). The same thing is true between groups V and VI, and also VII and VIII.

In this connection it is highly significant that the *seventh* heptad seems to halt the upward zigzag journey and call for a rest; for at the center of the *seventh* group, cerium (Ce), we mark time while we count fourteen (2x7) rare elements, every one of them possessed of *three* positive valences and known as the "rare earth group," whereupon we take up our procession exactly as before until we finally reach the heaviest element known, uranium (U), where the list ends.

Such, in brief, is the wonderful "Periodic Law," ordered in strict accord with mathematical ratios, and build upon the principle of the octave. What depths and heights of wisdom here confront us! What is the meaning of all these *sevens* written everywhere about us, that ordain beauty and symmetry out of discord and chaos? Can any doubt remain that *seven* is the number of "harmonious relations," the number of fulness, finality and perfection, the number of God in relation to His creatures?

So much for the law of the octave in the world. I leave my readers to decide whether or not we have grasped "the key that will unlock some of the deepest mysteries of creation."

PART II

The Law of the Octave in the Bible

WITH what simple and yet majestic grandeur the Bible begins its wondrous narrative! In a single sentence of *seven* Hebrew words, composed of four times *seven* letters, is to be found the only answer, and it is God's answer, to the riddle of the universe. "In the beginning God created the heavens and the earth." How vast the sweep of these words across the limitless void and over the countless ages!

And what an abyss of time may lie between these words and the next no man can know; for from the Hebrew it would appear that this planet underwent the throes of some cataclysmic upheaval, some catastrophic plunge into chaos, for the reading is, "the earth became without form and void." Out of this primordial chaos the "God of peace" (eirene—"harmonious relations") would bring symmetry and order, and this He does according to the law of the octave, in two *triads* of days.

It is doubtful if any other passage in the Bible, except it be the story of "Jonah and the whale," has met with the measure of disdain and ridicule that the so-called creation story of Genesis has received. It has been laughed at as childish and naïve, a fit companion of fairy-tales in the nursery, a story good enough for the childhood of the race, but wholly discredited by the learning of our astute age. So saturated is the modern mind with a God-denying hypothesis of evolution, that teachers in our schools cause our children to laugh at the Genesis account, the critics never imagining that God can be just as pedagogical as any one of them; that He too, would adapt His instruction to the capacity of children, and in a language they can understand, seeing that children and uneducated folks make up the bulk of mankind. What teacher would laugh at the small boy's map of the western hemisphere, reducing to twelve inches two vast continents? How else could he gain any conception of such a huge thing as a continent unless it were reduced to scale? God speaks to us in our every-day language in Genesis one, where the vast enactments of that world re-ordering is drawn, so to speak, to scale. It is passing strange that the critics, who are usually so much disturbed about "accepting the Bible literally," insist that a literal day of twenty-four hours is the only permissible interpretation of the word "day," a word which is used in the Bible, even as in our modern parlance, for vast periods of time. It would seem that the inspired apostle anticipated this when he said, "forget not this one thing, beloved, that one day is with the Lord as a thousand years, and a thousand years as one day" (2 Pet. 3:8).

Suppose we make a fresh study of this creation narrative in the light of our findings thus far. It may be that God has left the watermarks in the fabric of the page of His Word that we discovered on so many pages of His world.

The Octave of Creation

Ten times during these six days occur the words "wayomer elohim," "and God said." The phrase never varies, the "and" is always there, which in Hebrew is the letter "waw" or "vav." Now it is well known that the letters of the Hebrew alphabet were used as numerals, a fact which would arouse interest in a discerning Israelite much as it would in us if I were to set down a series of numbers like this: 40, 10, 5, 30, 1, 200, 40, 1, 10, 6. These are the equivalents of the letters that make up the Hebrew for "*and God said.*" Add them and you will find the sum to be 343—7x7x7! Omit the word "and" and there remains not a single multiple of *seven* in it. Just *seven* different letters of the alphabet also are used in these two words.

Upon examination we find the enactments of this world re-ordering to fall into two triads of days; that these two triads bear analogously the same relation to each other that the primary colors bear to their complementary secondaries, and as the three major triads of music

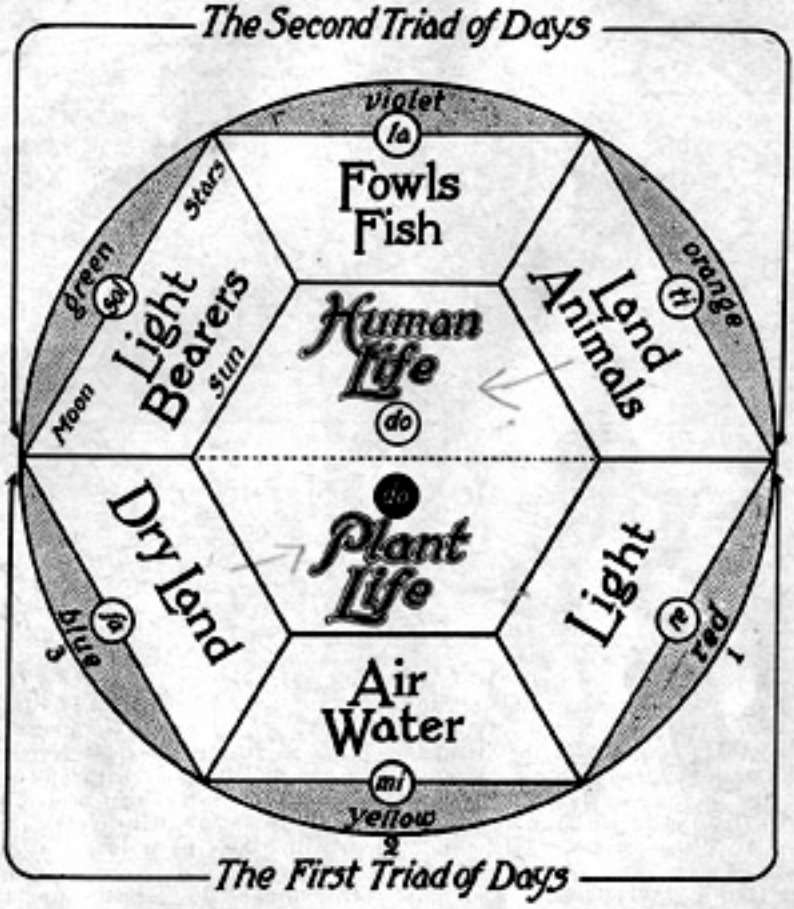


Fig. 13—The Octave of Creation.

are related to their three relative minor triads.

THE FIRST TRIAD OF DAYS

On the first day the fiat went forth, "Let there be light"; on the second day a *firmament* was made, an "expanse" of air and water; on the third day, "Let the dry land appear." Light, fluids, dry land, a trinity of inanimate creations are now integrated, synthesized into a unity, *plant-life;* and this as an extra creation on the third day. Not one of these three can be omitted from the organic structure of vegetable life. Corresponding to these three days we have placed the three primary colors (viewed as pigments), red, yellow, and blue.

THE SECOND TRIAD OF DAYS

Passing on to the second triad of days we find the complementaries of the first three days, or "fillers up," in a manner analogous to the complementary relationship which the three secondary colors, green, violet and orange, bear to their primaries; for on the fourth day God said: "Let there be luminaries (light-bearers)," the sun, moon, and

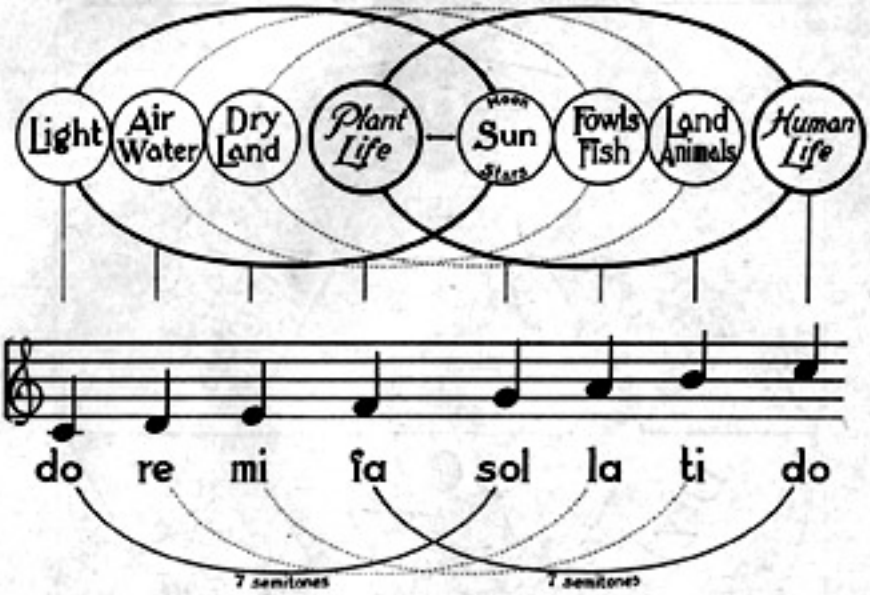


Fig. 14—The "Perfect Fifth" in Music and in Creation.

stars, answering to the flat of the first day as the secondary green answers to its primary complement, red. On the fifth day, "Let fowls fly in the air and fish in the water," the fifth day answering to the second day in precisely the same way as the fourth answers to the first, and as the secondary violet answers to its primary complement, yellow. On the sixth day, "Let land animals fill up the dry land," thus complementing the third day as the secondary orange complements blue.

As on the third day we had an extra creation in the advent of synthesizing vegetable life, which marks a distinct step in advance from inanimate to animate creation, so have we on the sixth day an extra creation, *human life*, which in turn marks a step in advance from merely animate being to that which is utterly new, a spiritual personal being, capable of knowing, loving, and worshiping the Creator.

Now, what have we here but the law of the octave! For beginning with plant life and ending with human life we have *do, re, mi, fa, sol, la, ti, do* (see figure 13). Human life is the octave of plant life; the lowest form of life upon earth entering into and forming a part of human life, the highest form, with this added distinction, that man occupies the first place in the new octave, being numbered not only with creation below him with which he is in harmony, but also with the creation above, even with spiritual, angelic beings, capable of knowing and worshiping God.

Perhaps a better way yet to interpret this is the use of the two tetrachords of the Greeks (see figure 5, page 10). By referring to the last mentioned figure the reader will observe that the first tone of the lower triad is exactly seven semitones removed from the first tone of the second triad, that is, *do, sol*. In like manner *re* is seven tones from *la* and *mi* from *ti* and *fa* from *do*. The reader will also recall from the foregoing chapter that the interval between *do* and *sol*, *seven* semitones, is produced only when a string is divided into *three equal parts*. Observe in figure 14 how these eight orders of creation fall into a perfectly interlocking arrangement analogous to the "perfect

fifth" of the musical scale, *do, sol*. Two ellipses gather together, respectively, *inanimate* creation and *animate* creation. However, within the ellipse encompassanimate creation is the one syntheanimate creation, plant life. In manner within the ellipse of animate creation there is one inanimate creation, which is the source of life and energy to man, beasts, and plants, namely, the sun. Notice the interlocking of light with its complement "light-bearers;" air and water, the habitat of fowls and fish; the dry land, the abode of land animals and plant life, which alone of all living creatures derives its energy *directly* from the sun's rays, standing in like relationship to man, the ordained head of terrestrial creation.

THE MEANING OF THE NUMBER SEVEN

From the foregoing discussion the fact has emerged that the numeral seven is the number of completeness, finality and harmonious relations. The Hebrew word translated "*seven*" means literally "to bind into a bundle," and as such is the number of *oath-bound covenant relationship*, as can be clearly discerned from the divinely inspired interpretation of its significance found in the twenty-first chapter of Genesis. The Hebrew word "seven" is "sheva." This is also the word everywhere used in the Old Testament for "swear," or "to bind with an oath," the man thus binding himself being said to *seven* himself. A paraphrase of the passage above referred to will bring out picturesquely what the eye of a Hebrew would instantly discern. There is manifestly here a play upon words, with an evident intention of identifying the significance of *seven* with the idea of an oath-bound covenant. Thus we read: "And it came to pass that Abimelech * * * spake unto Abraham saying * * * now therefore *seven* thyself unto me here by God that thou wilt not deal falsely with me * * * and Abraham said, I will *seven* myself. And Abraham reproved Abimelech because of a well of water which Abimelech's servants had violently taken away * * * And Abraham took sheep and oxen and gave them unto Abimelech, and both of them made (literally "cut") a covenant. And Abraham set *seven* ewe lambs of the flock by themselves. And Abimelech said unto Abraham, What means these *seven* ewe lambs which thou hast set by themselves? And he said, For these *seven* ewe lambs shalt thou take of my hand that they may be a witness unto me that I have digged this well. Wherefore he called that place the well of Sevening (Beersheba, or Beer-'sheva') because there they both *sevened* themselves." (Gen.21:22ff.)

It will be recalled that immediately after this God calls Abraham to take his only son Isaac to Mount Moriah and there offer him unto the Lord (Gen. 22:16); whereupon the angel of the Lord

Fig. 15—The Significance of the Number Seven.

said, "By myself, saith Jehovah, I have sworn," or literally, "I have *sevened* myself," or bound myself with an oath; "and because thou hast done this thing and not withheld thine only son, that in blessing I will bless thee, . . .whereupon Abraham returned again to the Well of *Sevening* (Beersheba), and Abraham dwelt at Beer-sheba."

In the light of the foregoing, figure 15 graphically presents the meaning of the number seven as it is used in Scripture. It is the number of oath-bound covenant relationship; for God is a trinity of Persons above, existing in a unity of nature, a fact which the sin-beclouded reason of man never would have apprehended, but which is revealed in the Scriptures, implicity in the Old Testa-

ment, explicity in the New. This fact, while transcending reason, is by no means against reason. Indeed, man's mind cannot ultimately rest, or at least his heart cannot, in any other idea of the Deity than that of the triune God. Man is also a tripartite being, as again the Scriptures reveal; for he is body, soul and spirit. By means of his body he communicates with the visible creation; by means of his spirit he communes with the invisible Creator. Herein man differs from all the beasts of the field in that he has the God-capacity, a room in his being, so to speak, designed for God's indwelling. He was created in the image of God, a trinity of natures in a

Fig. 16—Abraham's Vision of the Covenanting God.

unity of persons, as God is a trinity of persons in a unity of nature. When God, the Three-in-One above, and man, the three-in-one below, are bound together in a unity of life and love relationship, then we have the octave, we have harmony, music!

Let us take another event in the life of Abraham, indeed the event referred to in that *sevening* of Jehovah up on Mount Moriah. Genesis 15:18 states, "In that day Jehovah made a covenant with Abram." How was it done? The answer is contained in verses 9-18. See figure 16 for a diagrammatic setting of the "cutting of the covenant." *Three* animals, each *three* years old—why three?—were halved, and each half placed opposite its corresponding other half. A pigeon and a turtle-dove were used but were not to be divided. They were the integrating *wholes* binding the differentiating triads into one. While Abram sleeps deeply the vision of the smoking furnace and flame of fire passes between these halves symbolically so wholed, and there is *sevened* by blood the ever-lasting covenant, mentioned in the Old Testament just twice *seven* times, and in the New Testament *once* only, and then in specific reference to "that great Shepherd of the sheep, our Lord Jesus" (Heb. 13:20).

Mention of the great *Shepherd* instantly brings to mind

The Shepherd Psalm

which, we shall see, falls into the beautiful form of the snow crystal. See figure 17.

(1) "*The Lord is my shepherd, I shall not want.*" Here is the heavenly *sufficiency* meeting the earthly *deficiency*, and the whole Psalm is encompassed within this central nucleus. Everything else is the outgrowth and elaboration of this central idea.

(2) "*He maketh me to lie down in green pastures; he leadeth me beside the still waters.*" What have we here but food and drink, provision for the *body!* Observe diagonally across the hexagon that it is the Father that makes provision for all our earthly needs. "Your *Father* knoweth what things ye have need of before ye ask him;" "My *Father* giveth the true bread from heaven"; "Every good gift cometh down from the *Father*," etc.

(3) But "All we like sheep have gone astray"; therefore we need restoration, and it is the *soul* that is restored. "The *soul* that sinneth, it shall die." It is the soul that needs re-instatement, restoration; therefore "*He restoreth my soul.*" Again note diagonally across that it is the Son who deals with the fact of sin, believing in Whom the soul of man is instantly restored by the free

Fig. 17—Diagram of The Shepherd Psalm

imputation of a righteousness not his own, whereby he has perfect standing as a justified sinner.

(4) But now that he is restored to righteousness he needs One to guide him; therefore, "*He leadeth me in the paths of righteousness,*" and Who is it that guides us along the straight and narrow way but the Holy Spirit? By a *triad* of differentiated provisions our Jehovah-Shepherd supplies every want of our body, soul, and spirit. A ligament binds, as it were, this triad below with the words "*for his name's sake.*" Everything he does for us in this life is not because of our merit, but for His own name's sake.

He has now reached, in his contemplation, the end of his earthly life. What is going to happen when he dies? He does not know; but looking out into the future, death takes on the form of a dark, shadowy valley, which he must traverse to the realms of light; therefore he goes on to say,

(5) "*Yea, though I walk through the valley of the shadow of death, I will fear no evil; for thou art with me; thy rod and thy staff they comfort me.*" That is to say, the Father who took care of him *in* the body will also take care of him *out* of the body. Thank God it is not His will that any of His sheep should abide in this dark, shadowy valley. To change

the figure and speak directly, it is His purpose that each of His children shall be clothed upon with a spiritual, immortal body, but this is not to be ours until the resurrection.

(6) When the Lord Jesus comes we learn (1 Thess. 4:13-18; 1 Cor. 15:51-55; Phil. 3:21) that we shall be given our deathless, glorified bodies and ushered into the "marriage supper of the Lamb." Wherefore he goes on to say: "*Thou preparest a table before me in the presence of mine enemies.*" Observe Who it is that sits at the head of the table—the Son of God. On the lower side He *restores* the soul; that is the beginning of our salvation; on the upper side, He *finishes* our salvation, when we are "presented faultless before his presence with exceeding joy."

(7) But we do not sit at the table forever; we have service to perform, for which we need anointing; therefore, "*thou anointest my head with oil;*" and "anointing," it will be remembered, is everywhere in the Scriptures the symbol of the Holy Spirit's equipment for service.

(8) As there was a ligament binding together the lower three, so there is a ligament binding together the upper three, for in contemplation of his heavenly life, he exclaims, "*My cup runneth over.*"

Finally, by one sweeping, compound sentence, he sums up the whole of the earthly provision and the heavenly provision in the words, "*Surely goodness and mercy shall follow me all the days of my life; and I will dwell in the house of the Lord forever.*"

Before leaving this beautiful diagram, as crystalline as a snowflake, observe in the lower triad the recurring *He, He, He,* and in the upper triad, *Thou, Thou, Thou,* as if to say here below we walk by faith and not by sight, and it is proper to say, *He;* there we shall see Him as He is, when it will be proper to say *Thou.*

There are literally multitudes of such octaves in the Bible, as beautiful in symmetry as the foregoing, but for the present we will have to be content with but two more.

The Seven Sayings of Jesus

Reference has already been made to the "blood of the everlasting covenant," where in Hebrews 13:20 we read that the "God of Peace (Harmonious Relations) brought again from the dead our Lord Jesus." (In the New Testament "God of Peace" occurs just six times; "Lord of Peace" once, but *seven* in all!)

In this connection it is significant that the word "passover," symbol of the Saviour's propitiating sacrifice, occurs just 7x7 times in the Old Testament and 4x7 in the New!

But more marvelous yet is the balanced symmetry of the "seven sayings" upon the cross, where even the words used number just 7x7. (See fig. 18.)

The fourfold record of the day of crucifixion contains a composite picture of that tragic day, from which we gather *seven* sayings uttered by our Lord upon the cross. *Three* of the sayings are by Luke, *three* of the sayings are by John and one by Matthew (Mark records this also).

Jesus was put upon the cross at the *third* hour of the day (Mark 15:25). At the *sixth* hour darkness covered the land, while at the *ninth* hour he gave up the ghost (Luke 23:44). Thus there were *three* hours of light and *three* hours of dark. Furthermore *three* of these sayings were uttered in the light, *three* were uttered during the darkness, and one in the darkest of the dark. Again, the *three* in the light manifest his *thought for others;* the three uttered in the dark manifest his *thought for Himself.* The upper triad: (1) "Father, forgive them," etc. (His enemies): (2) "This day shalt thou be with me in Paradise" (His friend); (3) "Woman, behold thy son" (His mother). The lower triad: (4) "I thirst" (His body); (5) "It is finished" (His soul); "He poured out his *soul* unto death"; "When thou shalt make His soul an offering for sin"; "He shall see the travail of His *soul,* and be satisfied." (6) "Father, into thy hands I commend my *spirit*"

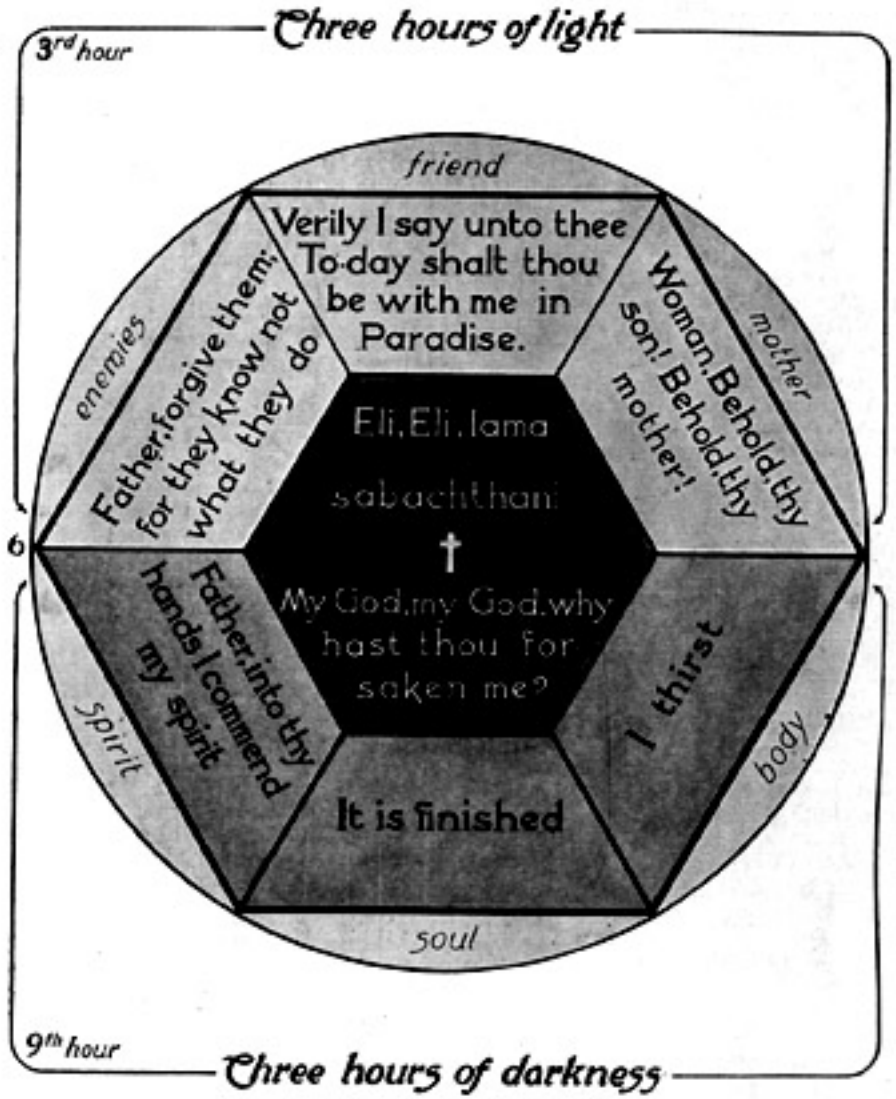


Fig. 18—Diagram of the "Seven Sayings."

(His spirit). Man's tripartite nature is thus encompassed in the second triad—body, soul and spirit.

The climacteric moment, however, of that tragic day was when he uttered the fearful cry, "Eli, Eli, lama sabachthani." Here one somehow feels, was the supreme moment in the history of this sinful race; here the debt was paid, the everlasting covenant sealed, our passover Lamb once offered. This central utterance marks the center of the atonement. Note please, that it is recorded in two languages; Aramic, the language of the

Jews, the covenant people, and in Greek the language of the Gentiles, or the non-covenant people. See now the illuminating passage in Ephesians 2:16 where we read that He "reconciled both (Jew and Gentile) in *one body by the cross*"!

It will be observed, also, that the first, the middle, and the last are *prayers;* the remaining four are not. These three prayers contain eight Greek words each, with the central one supplying four more in Aramaic, 28 in all (4x7). The remaining four utterances contain just 21 words in Greek (3x7). But 4x7 words in 3 sayings, and 3x7 words in four sayings gives us 7x7 words in all!

Where in all the range of secular literature can such a thing be found? How could three men each writing independently of the others, choosing and arranging his materials with no consciousness of a supervising mind, contrive such perfection of symmetry as we see here displayed! What need we of further proof that "all scripture is God-breathed," and "holy men of old spake as they were moved by the Holy Ghost"?

The Meaning of the Cross

The theme of the Bible is *redemption.* The central fact of the Bible is the Crucifixion of Jesus. The meaning and blessed consequences of that fact constitute the burden of the Epistle to the Romans. The heart of Romans is chapter three, verses 21 to 26, into which, like dark, polluted venous blood the terrible argument for humans sinfulness flows; and out of which like cleansed arterial blood, the life-giving stream flows to every succeeding chapter.

Righteousness is the big word of Romans. It underlies the whole Epistle like the foundation of a cathedral; or, to change the figure, it is the warp into which is woven the glorious fabric of paradise regained. It would be natural to expect that a word that so dominates the Epistle should find a prominent place in the "heart passage," and so it is; and in the light of the foregoing demonstration of the law of the octave there is to be found no more beautiful and significant instance of balanced symmetry and sweeping comprehensiveness in the entire Bible than this.

The word *righteous* appears just *seven* times in this perfect unit of Scripture, a fact, however, likely to be overlooked because of the variety of English words used to translate it. In order, therefore, to bring out the perfect symmetry and beauty of the passage, as well as to indicate the unity of the dominant thought, the diagram here given segregates the Greek root "*dikaio*" (righteous) in its varied forms.

A few preliminary remarks seem needful before our examination of the passage.

Man having been proved to be wholly wanting in *righteousness*, or "rightness," he stands before the tribunal of divine justice a guilty and, but for the mercy of God, a hopeless and undone sinner. Nor is it possible for him to recover himself out of his terrible plight. Efforts to keep the law of God will not touch the matter of his guilt. There is no help, no mercy, at Sinai (3:20).

(1) "But now," (verse 21) since man's righteousness is wholly wanting, God, who is rich in mercy, provides the needed righteousness. "But now an apart-from-law righteousness of God (literal translation) is manifested"; a righteousness which is wholly apart from man's character, and of which God is the Author and Bestower; a righteousness to be *obtained*, not *attained*.

(2) The manner of the obtainment is nothing new. It is God's method in all ages since the Fall, as "witness the law and the prophets," of whom Abraham and David are representative (chap. 4).

(3) This "apart-from-law righteousness of God," a phrase viewing it negatively, is balanced by "even a righteousness of God through faith in Jesus Christ," which views it positively. Its conferment has nothing to do with our keeping the law; it is reckoned to us through faith in Jesus Christ, as the next phrase asserts.

(4) "Unto all and upon all them that believe; for there is no difference; for all have sinned, and come short of the

glory of God"; that is, are continually coming short of God's approval. There is no difference in the *fact* of guilt, though there may be and doubtless are differences in the *degrees* of guilt.

(5) "Being declared righteous (justified) freely (as a free gift) through the redemption that is in Christ Jesus"—an act that would involve the Judge Himself in guilt were it not that sin is fully met at Calvary "through the redemption that is in Christ Jesus." The Cross of Christ is the eternally standing reason why a *righteous* God can deal in *mercy* with sinful men; and it is so because—

(6) "God hath set forth (Jesus Christ) a propitiatory sacrifice"—not a shining example of the spirit of self-sacrifice for us to emulate, but he has "set him forth *in his blood* as a substitutionary atonement (see Heb. 9:22; 1 John 2:2, and kindred passages). The purpose of this setting forth publicly before the whole world of Jesus Christ "*in his blood*" is—

(7) "To declare his (own) righteousness," to vindicate his own character, since man had from the beginning fearfully misunderstood his "forbearance" as tantamount to not caring whether or not men sinned! He had "passed over (pretermission) sins done aforetime," forbearing to punish, and men had asked, "Where is the God of righteousness?" Now in the sacrifice of Calvary we have the explanation of this age-long forbearance of God. His character as righteous in the past is now vindicated; yes, and in this present time too; for the sacrifice of Calvary—

(8) "Declares in this present time," and in all succeeding generations, "his (own) righteousness," in His unalterable hatred of sin;

(9) "That he himself might be *righteous*," and at the same time the "one who *declares righteous* the one who believes in Jesus."

This is the center and focus of the thought of the whole passage. Man is thus declared righteous before God, and God's righteousness is vindicated before man. Man is saved from the wrath of God; God is saved from the misunderstanding of man.

THE DIAGRAM

The word *righteous* (dikaio) appears just seven times in this passage, in varying forms; twice as a noun *without* the article, (dikaiosune) "a righteousness"; twice as a noun *with* the article and the possessive pronoun (dikaiosune), "*the* righteousness of him"; twice as a verb in the participial form, once in the passive voice (dikaioumenoi), "being declared righteous," and once in the active voice (dikaiounta), "declaring righteous"; and finally the seventh occurrence, as an adjective (dikaois), "righteous."

These seven occurrences divide, therefore, into two plus two plus two plus one, or seven in all. The passage divides exactly into two halves, the first half setting forth man's justification before God, the second half setting God's justification before man. "A righteousness of God is viewed *negatively*, "apart from the law"; then the same righteousness is viewed positively, "even a righteousness of God by faith in Jesus Christ."

This righteousness is then gratuitously bestowed on believing sinners, by which they are counted "righteous" (dikaioumenoi). This is *man's* side, whereby he is justified at the Cross.

Then "*his own righteousness*" is vindicated at the same Cross, looking *backward* from Calvary; and this same righteousness is vindicated in the present, looking *forward* from Calvary; and thus God is declared "*righteous*" before man every time He "declares righteous" a believing sinner.

It so happens that in these five verses there are just 98 words in the Greek text (Nestle's Edition, published by the British and Foreign Bible Society, which edition, according to the late B. B. Warfield, is the purest text in existence.) But 98 is twice 49, or 7 times 7. The striking and highly significant fact in the light of the entire discussion thus far is that the words "Christ Jesus" are exactly in the center of this passage, *Christ* being the 49th word and Jesus being the 50th; Christ the divine title, Jesus his human name.

Now if one is warranted in the assertion that it is Christ, the God-man viewed as to His mediatorial work, by whom man is justified before God; and that it is Jesus, the God-man viewed as the only perfectly righteous human being, who alone has vindicated the holy law of God, behold, then, the marvelous beauty and symmetry of this wonderful passage of Scripture! Christ, the last word in the first half; Jesus, the first word in the second half.

"O the depth of the riches of the wisdom and knowledge of God! how unsearchable are his judgments, and his ways past tracing out"! (Rom. 11:33).

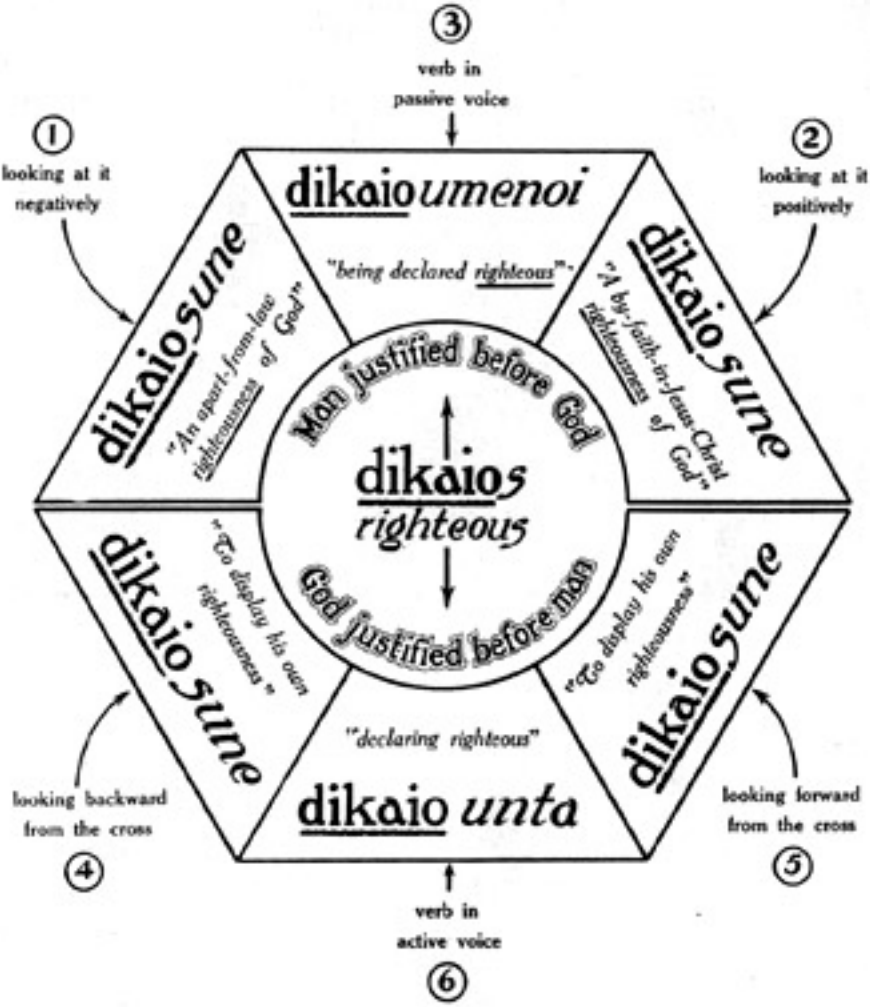
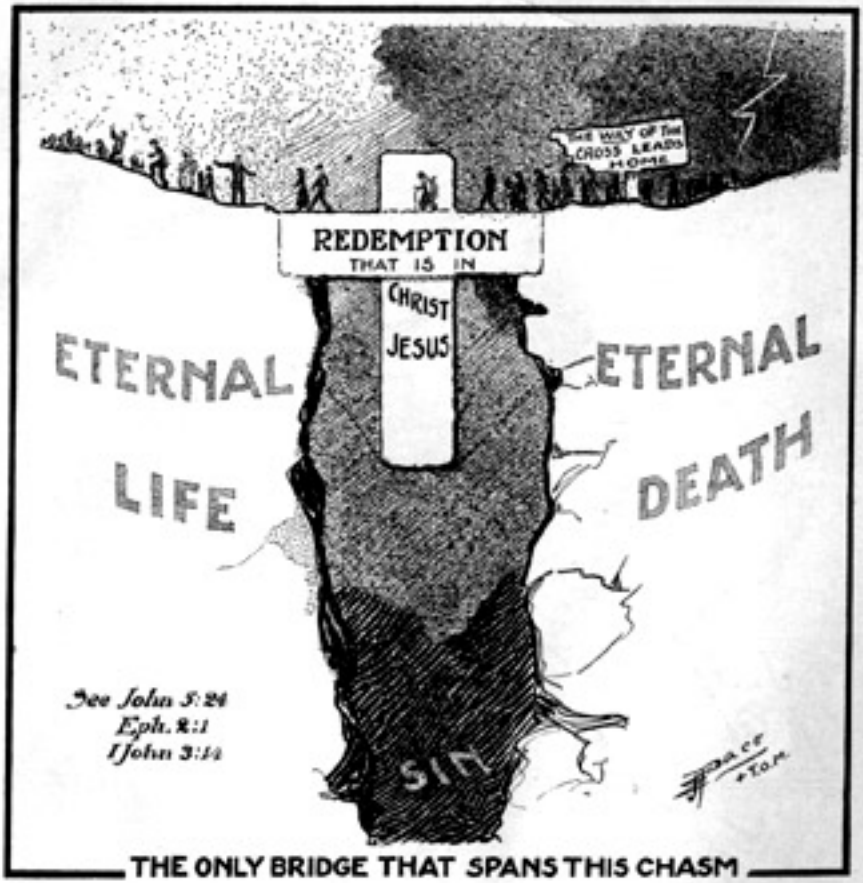


Fig. 19—Diagram of the Heart of Romans—3:21-26.



DR. PACE DREW THIS CARTOON—

and ninety-two others *emphasizing* the value of God's Word, *stressing* the importance of Bible study, *introducing* simple truths of the Gospel, *portraying* salvation in Christ and not through character, *warning* against those teaching otherwise, *illustrating* faith, prayer, obedience, and *inspiring* soul-winning, the mission call, the victorious life. All ninety-three are in—

CHRISTIAN CARTOONS

Board Covers, 75 cents per copy

THE BIBLE INSTITUTE COLPORTAGE ASSOCIATION
843-845 North Wells Street, Chicago