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My dear Professor Joyce:

Receive your impudent Memoir today.
Although I have not yet had time to read
far into Chapter II, I will venture on a few re-
marks which may for ought I know be con-
tained in the Memoir itself.

Beginning with the formal definition of an α -collection
in § 19, I will consider law I in the form

$$E(\alpha) \sim E(\alpha),$$

that is, E expresses such a relationship be-
tween the "elements" of the "collection" as remains
when some of these elements have been suppressed.
Further, since this relationship is one of equivalence,
the assertion $E(\alpha)$ is that each "element" of α
after the first pair is suited to preserve the E -
relationship. It therefore expresses (does E)
an agreement among all the "elements". If I
ask what sort of agreement, the answer must be
an agreement in any one of certain respects,
which I may for convenience refer to as essential

respects. For if $a_1, a_2, a_3, a_4, \dots$ all agree in any one respect of a given class, so necessarily do any of these a 's fewer than n . Consequently $\Omega(x)$ expresses that there is "in any" essential respect, the elements $a_1, a_2, a_3, \text{etc.}$ are not all alike. Now let me see what limitation Law II places upon this interpretation. That law is that if $E(\delta)$ then either $E(\beta)$ or else, ^{for some} ~~whatever~~ element of β b_n may have $\nsubseteq E(\delta b_n)$. That is, if $d_1, d_2, d_3, \dots d_n$ (the "elements") of δ all agree in ^{an} "essential respect" and if $b_1, b_2, b_3, \dots b_n$ do not all agree in anyone "essential respect," then there must be some ~~one~~ one of the b 's, say b_n such that it does not agree with $d_1, d_2, d_3, \dots d_n$. This will necessarily be the case ^{and only if} if the "essential respects" remain the same for all "collections." For, this being the case, the b 's do not agree with one another in that essential respect in which the d 's agree. Suppose, for instance we call the character of d , in that

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respect 0, so that $d_1 \neq 0, d_2 \neq 0, d_3 \neq 0$ etc then some b is 0 and some is $\bar{0}$, or as I may write it, is 1. Then the former agrees in this respect with all the d 's. Thus Law II adds nothing to Law I except that the essential respects are the same universe of respects for all "collections", and there is merely a dual variation in each respect. Let us form a table, or block, for each collection, & assigning a separate horizontal line to each "essential respect", and a separate column to each "element". I will denote the determination of the first element (the one arbitrarily taken as first) in each respect by 0, and the same character 0 shall denote agreement with that first in that respect, while 1 shall denote the opposite determination. Then identifying respects in which no two elements differ, the possible "collections" of the system will be represented by blocks

of numbers expressed in the secundal notation

00	000	0000
01	001	0001
	010	0010
	011	0011
		0100
		0101
		0110
		0111

Thus $O(\alpha)$ means that the block of numbers representing α does not contain zero. Can't might be expressed: "Elements which disagree with the same element agree with each other, in any one essential respect."

Of the special principles, III, IV, V express that, There are at least 3 different (i.e. non equivalent) elements in the system.

In each respect counted as essential there are elements that differ. (So that the whole system is an O collection.)

VI says: If there be an element w which differs in every essential respect from some elements of a collection D , then there is an element of the system v which agrees with w in every respect in which all elements of D agree with each other and differ from w in all respects in which another and different elements of D differ from one another.

§21. Let the determination of x in any respect be α . Then since $O(xy)$, the determination of y will be β . Then since $O(\alpha x)$ and $O(\alpha y)$ one element of α will be O and another I . Then in any respect the elements of α will be unlike or $O(\alpha)$.

§22 Since $O(\alpha)$, in every respect some two elements of α will differ. Suppose then that in a certain respect $p_0 = O$ $p_1 = I$. Then the diverse collection will contain $r_0 = I$ $r_1 = O$ and thus in every aspect elements of β will differ from $O(\beta)$.

§23 Let the determination of x in any aspect be α . Then by $O(xy)$, the det. of y will be I in any aspect. Since $O(\beta x)$, the det. of some element of β will be I , and since $O(\beta x)$, the det. of some element of β will be I . Since η and β are diverse, the det. of some element of η will be O . Since in any respect the det. of some element of β is thus shown to be I , while the det. of some element of η is O , we have $O(\beta\eta)$. This is of course.

Proof in Memoir 84 words.

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§24. Since α consists solely of elements complementary to λ , every element of α is in every respect different from some element of λ . Since $O(\alpha)$, in no respect is every element of α like every element of λ . Since s and y are ob-
verses, in no respect is every element of α different from every element of y . Therefore in no respect is every ele-
ment of λ like every element of y , or $O(y\lambda)$.

There is one feature of your work which puzzles me; and it seems to me that this is because the explanations of the introduction are not sufficient.

The elements are "simple and homogeneous". Then I do not see how two can be equivalent, or how $O(p, q)$. It should think implies that two ele-
ments made up the system.

In §7 I learn that a collection "is determined wholly by the fact that certain elements do, while certain elements do not, belong to it." I should think, then, that $(x, r) = (x, x, r)$. Is that

Are your elements definite individuals, or indefinite individuals, or are they generals? This is a vital question, the logic of the three being different. If they are definite, I do not see how one can enter a collection twice over. If they are indefinite, they are signs, and equivocal signs. May the same letter denote two different elements?

I should like a clear explanation of these matters and an accurate statement of the sense in which an element can enter repeatedly into a collection.

Is it that, besides elements and respects, there are also modes of composition, so that (a, b) and (aa, b) and (a, bb) and (aa, bb) etc are different compounded though of the same composition? This would seem to be explicitly negatived

by 87.

very faithfully

P. S. Peirce

Of course the different equivalent
elements differ in inessential respects.