Naïve tendency to consider linguistic, racial, and cultural groupings as congruent. Race and language need not correspond. Cultural and linguistic boundaries not identical. Coincidences between linguistic cleavages and those of language and culture due to historical, not intrinsic psychological, causes. Language does not in any deep sense “reflect” culture.

11. Language and Literature

    Language as the material or medium of literature. Literature may move on the generalized linguistic plane or may be inseparable from specific linguistic conditions. Language as a collective art. Necessary esthetic advantages or limitations in any language. Style as conditioned by inherent features of the language. Prosody as conditioned by the phonetic dynamics of a language.

3. Index

I

Introductory: Language Defined

Speech is so familiar a feature of daily life that we rarely pause to define it. It seems as natural to man as walking, and only less so than breathing. Yet it needs but a moment’s reflection to convince us that this naturalness of speech is but an illusory feeling. The process of acquiring speech is, in sober fact, an utterly different sort of thing from the process of learning to walk. In the case of the latter function, culture, in other words, the traditional body of social usage, is not seriously brought into play. The child is individually equipped, by the complex set of factors that we term biological heredity, to make all the needed muscular and nervous adjustments that result in walking. Indeed, the very conformation of these muscles and of the appropriate parts of the nervous system may be said to be primarily adapted to the movements made in walking and in similar activities. In a very real sense the normal human being is predestined to walk, not because his elders will assist him to learn the art, but because his organism is prepared from birth, or even from the moment of conception, to take on all those expenditures of nervous energy and all those muscular adaptations that result in walking. To put it concisely, walking is an inherent, biological function of man.

Not so language. It is of course true that in a certain sense the individual is predestined to talk, but that is due entirely to the circumstance that he is born not merely in nature, but in the lap of a society that is certain, reasonably certain, to lead him to its traditions. Eliminate society and there is every reason to believe that he will learn to walk, if, indeed, he survives at all. But it is just as certain that he will never learn to talk, that is, to communicate ideas according to the traditional system of a particular society. Or, again, remove the new-born individual from the social environment into which he has come and transplant him to an utterly alien one. He will develop the art of walking in his new environment very much as he would have developed it in the old. But his speech will be completely at variance with the speech of his native environment. Walking, then, is a

element of speech—and by "speech" we shall hence-forth mean the auditory system of speech symbolism, the flow of spoken words—is the individual sound, though, as we shall see later on, the sound is not itself a simple structure but the resultant of a series of independent, yet closely correlated, adjustments in the organs of speech. And yet the individual sound is not, properly considered, an element of speech at all, for speech is a significant function and the sound as such has no significance. It happens occasionally that the single sound is an independently significant element (such as French *a* "has" and *à* "to" or Latin *i* "go!"), but such cases are fortuitous coincidences between individual sound and significant word. The coincidence is apt to be fortuitous not only in theory but in point of actual historic fact; thus, the instances cited are merely reduced forms of originally fuller phonetic groups—Latin *habet* and *ad* and Indo-European *ei* respectively. If language is a structure and if the significant elements of language are the bricks of the structure, then the sounds of speech can only be compared to the unformed and unburnt clay of which the bricks are fashioned. In this chapter we shall have nothing further to do with sounds as sounds.

The true, significant elements of language are generally sequences of sounds that are either words, significant parts of words, or word groupings. What distinguishes each of these elements is that it is the outward sign of a specific idea, whether of a single concept or image or of a number of such concepts or images definitely connected into a whole. The single word may or may not be the simplest significant element we have to deal with. The English words *sing*, *sings*, *singing*, *singer* each in turn is a perfectly definite and intelligible idea, though the idea is disconnected and is therefore functionally of no practical value. We recognize immediately that these words are of two sorts. The first word, *sing*, is an indivisible phonetic entity conveying the notion of a certain specific activity. The other words all involve the same fundamental notion but, owing to the addition of other phonetic element, this notion is given a particular twist that modifies or more closely defines it. They represent, in a sense, compounded concepts that have flowered from the fundamental one. We may, therefore, analyze the words *sings*, *singing*, and *singer* as binary expressions involving a fundamental concept, a concept of subject matter (*sing*), and a further concept of more abstract order—one of person, number, time, condition, function, or of several of these combined.

If we symbolize such a term as *sing* by the algebraic formula A, we shall have to symbolize such terms as *sings* and *singer* by the formula A + b.[1] The element A may be either a complete and independent word (*sing*) or the fundamental substance, the so-called root or stem[2] or "radical element" (*sing-*) of a word. The element b (*-s*, *-ing*, *-er*) is the indicator of a subsidiary and, as a rule, a more abstract concept; in the widest sense of the word "form," it puts upon the fundamental concept a formal limitation. We may term it a "grammatical element" or affix. As we shall see later on, the grammatical element or the grammatical increment, as we had better put it, need not be suffixed to the radical element. It may be a prefixed element (like the *un-* of *unsingable*), it may be inserted into the very body of the stem (like the *n* of the Latin *vinco* "I conquer" as contrasted with its absence in *vici* "I have conquered"), it may be the complete or partial repetition of the stem, or it may consist of some modification of the inner form of the stem (change of vowel, as in *sung* and *song*; change of consonant as in *dead* and *death*; change of accent; actual abbreviation). Each and every one of these types of grammatical

the order (A), of the order b, and of the order (b). Finally, the various types may be combined among themselves in endless ways. A comparatively simple language like English, or even Latin, illustrates but a modest proportion of these theoretical possibilities. But if we take our examples freely from the vast storehouse of language, from languages exotic as well as from those that we are more familiar with, we shall find that there is hardly a possibility that is not realized in actual usage. One example will do for thousands, one complex type for hundreds of possible types. I select it from Paiute, the language of the Indians of the arid plateaus of southwestern Utah. The word *wii-to-kuchum-punku-rügani-yugwi-va-ntü-m(ü)*[5] is of unusual length even for its own language, but it is no psychological monster for all that. It means "they who are going to sit and cut up with a knife a black cow (*or* bull)," or, in the order of the Indian elements, "knife-black-buffalo-pet-cut up-sit(plur.)-future-participle-animate plur." The formula for this word, in accordance with our symbolism, would be
(F) + (E) + C + d + A + B + (g) + (h) + (i) + (0). It is the plural of the future participle of a compound verb "to sit and cut up"—A + B. The elements (g)—which denotes futurity—, (h)—a participial suffix—, and (i)—indicating the animate plural—are grammatical elements which convey nothing when detached. The formula (0) is intended to imply that the finished word conveys, in addition to what is definitely expressed, a further relational idea, that of subjectivity; in other words, the form can only be used as the subject of a sentence, not in an objective or other syntactic relation. The radical element A ("to cut up"), before entering into combination with the coordinate element B ("to sit"), is itself compounded with two nominal elements or element-groups—an instrumentally used stem (F) ("knife"), which may be freely used as the radical element of noun forms but cannot be employed as an absolute noun in its given form, and an objectively used group (E) + C + d ("black cow *or* bull"). This group in turn consists of an adjectival radical element (E) ("black"), which cannot be independently employed (the absolute notion of "black" can be rendered only as the participle of a verb: "black-being"), and the compound noun C + d ("buffalo-pet"). The radical element C properly means "buffalo," but the element d, properly an independently occurring noun meaning "horse" (originally "dog" or "domesticated animal" in general), is regularly used as a quasi-subordinate element indicating that the animal denoted by the stem to which it is affixed is owned by a human being. It will be observed that the whole complex
(F) + (E) + C + d + A + B is functionally no more than a verbal base, corresponding to the *sing-* of an English form like *singing*; that this complex remains verbal in force on the addition of the temporal element (g)—this (g), by the way, must not be understood as appended to B alone, but to the whole basic complex as a unit—; and that the elements (h) + (i) + (0) transform the verbal expression into a formally well-defined noun.

It is high time that we decided just what is meant by a word. Our first impulse, no doubt, would have been to define the word as the symbolic, linguistic counterpart of a single concept. We now know that such a definition is impossible. In truth it is impossible to define the word from a functional standpoint at all, for the word may be anything from the expression of a single concept—concrete or abstract or purely relational (as in *of* or *by* or *and*)—to the expression of a complete thought (as in Latin *dico* "I say" or, with greater elaborateness of form, in a Nootka verb form denoting "I have been accustomed to eat twenty round objects [e.g., apples] while engaged in [doing so and so]"). In the latter case the word becomes identical with the sentence. The word is merely a form, a

definitely molded entity that takes in as much or as little of the conceptual material of the whole thought as the genius of the language cares to allow. Thus it is that while the single radical elements and grammatical elements, the carriers of isolated concepts, are comparable as we pass from language to language, the finished words are not. Radical (or grammatical) element and sentence—these are the primary *functional* units of speech, the former as an abstracted minimum, the latter as the esthetically satisfying embodiment of a unified thought. The actual *formal* units of speech, the words, may on occasion identify themselves with either of the two functional units; more often they mediate between the two extremes, embodying one or more radical notions and also one or more subsidiary ones. We may put the whole matter in a nutshell by saying that the radical and grammatical elements of language, abstracted as they are from the realities of speech, respond to the conceptual world of science, abstracted as it is from the realities of experience, and that the word, the existent unit of living speech, responds to the unit of actually apprehended experience, of history, of art. The sentence is the logical counterpart of the complete thought only if it be felt as made up of the radical and grammatical elements that lurk in the recesses of its words. It is the psychological counterpart of experience, of art, when it is felt, as indeed it normally is, as the finished play of word with word. As the necessity of defining thought solely and exclusively for its own sake becomes more urgent, the word becomes increasingly irrelevant as a means. We can therefore easily understand why the mathematician and the symbolic logician are driven to discard the word and to build up their thought with the help of symbols which have, each of them, a rigidly unitary value.

But is not the word, one may object, as much of an abstraction as the radical element? Is it not as arbitrarily lifted out of the living sentence as is the minimum conceptual element out of the word? Some students of language have, indeed, looked upon the word as such an abstraction, though with very doubtful warrant, it seems to me. It is true that in particular cases, especially in some of the highly synthetic languages of aboriginal America, it is not always easy to say whether a particular element of language is to be interpreted as an independent word or as part of a larger word. These transitional cases, puzzling as they may be on occasion, do not, however, materially weaken the case for the psychological validity of the word. Linguistic experience, both as expressed in standardized, written form and as tested in daily usage, indicates overwhelmingly that there is not, as a rule, the slightest difficulty in bringing the word to consciousness as a psychological reality. No more convincing test could be desired than this, that the naïve Indian, quite unaccustomed to the concept of the written word, has nevertheless no serious difficulty in dictating a text to a linguistic student word by word; he tends, of course, to run his words together as in actual speech, but if he is called to a halt and is made to understand what is desired, he can readily isolate the words as such, repeating them as units. He regularly refuses, on the other hand, to isolate the radical or grammatical element, on the ground that it "makes no sense."[6] What, then, is the objective criterion of the word? The speaker and hearer feel the word, let us grant, but how shall we justify their feeling? If function is not the ultimate criterion of the word, what is?

It is easier to ask the question than to answer it. The best that we can do is to say that the word is one of the smallest, completely satisfying bits of isolated "meaning" into which

shape of the oral resonance chamber. This shape is chiefly determined by the position of the movable parts—the tongue and the lips. As the tongue is raised or lowered, retracted or brought forward, held tense or lax, and as the lips are pursed ("rounded") in varying degree or allowed to keep their position of rest, a large number of distinct qualities result. These oral qualities are the vowels. In theory their number is infinite, in practice the ear can differentiate only a limited, yet a surprisingly large, number of resonance positions. Vowels, whether nasalized or not, are normally voiced sounds; in not a few languages, however, "voiceless vowels"[18] also occur.

The remaining oral sounds are generally grouped together as "consonants." In them the stream of breath is interfered with in some way, so that a lesser resonance results, and a sharper, more incisive quality of tone. There are four main types of articulation generally recognized within the consonantal group of sounds. The breath may be completely stopped for a moment at some definite point in the oral cavity. Sounds so produced, like *t* or *d* or *p*, are known as "stops" or "explosives."[19] Or the breath may be continuously obstructed through a narrow passage, not entirely checked. Examples of such "spirants" or "fricatives," as they are called, are *s* and *z* and *y*. The third class of consonants, the "laterals," are semi-stopped. There is a true stoppage at the central point of articulation, but the breath is allowed to escape through the two side passages or through one of them. Our English *d*, for instance, may be readily transformed into *l*, which has the voicing and the position of *d*, merely by depressing the sides of the tongue on either side of the point of contact sufficiently to allow the breath to come through. Laterals are possible in many distinct positions. They may be unvoiced (the Welsh *ll* is an example) as well as voiced. Finally, the stoppage of the breath may be rapidly intermittent in other words, the active organ of contact—generally the point of the tongue, less often the uvula[20]—may be made to vibrate against or near the point of contact. These sounds are the "trills" or "rolled consonants," of which the normal English *r* is a none too typical example. They are well developed in many languages, however, generally in voiced form, sometimes, as in Welsh and Paiute, in unvoiced form as well.

The oral manner of articulation is naturally not sufficient to define a consonant. The place of articulation must also be considered. Contacts may be formed at a large number of points, from the root of the tongue to the lips. It is not necessary here to go at length into this somewhat complicated matter. The contact is either between the root of the tongue and the throat,[21] some part of the tongue and a point on the palate (as in *k* or *ch* or *l*), some part of the tongue and the teeth (as in the English *th* of *thick* and *then*), the teeth and one of the lips (practically always the upper teeth and lower lip, as in *f*), or the two lips (as in *p* or English *w*). The tongue articulations are the most complicated of all, as the mobility of the tongue allows various points on its surface, say the tip, to articulate against a number of opposed points of contact. Hence arise many positions of articulation that we are not familiar with, such as the typical "dental" position of Russian or Italian *t* and *d*; or the "cerebral" position of Sanskrit and other languages of India, in which the tip of the tongue articulates against the hard palate. As there is no break at any point between the rims of the teeth back to the uvula nor from the tip of the tongue back to its root, it is evident that all the articulations that involve the tongue form a continuous organic (and acoustic) series. The positions grade into each other, but each language selects a limited number of clearly defined positions as characteristic of its consonantal system, ignoring

idea of "guarding," the group *g-n-b* that of "stealing," *n-t-n* that of "giving." Naturally these consonantal sequences are merely abstracted from the actual forms. The consonants are held together in different forms by characteristic vowels that vary according to the idea that it is desired to express. Prefixed and suffixed elements are also frequently used. The method of internal vocalic change is exemplified in *shamar* "he has guarded," *shomer* "guarding," *shamur* "being guarded," *shmor* "(to) guard." Analogously, *ganab* "he has stolen," *goneb* "stealing," *ganub* "being stolen," *gnob* "(to) steal." But not all infinitives are formed according to the type of *shmor* and *gnob* or of other types of internal vowel change. Certain verbs suffix a *t*-element for the infinitive, e.g., *ten-eth* "to give," *heyo-th* "to be." Again, the pronominal ideas may be expressed by independent words (e.g., *anoki* "I"), by prefixed elements (e.g., *e-shmor* "I shall guard"), or by suffixed elements (e.g., *shamar-ti* "I have guarded"). In Nass, an Indian language of British Columbia, plurals are formed by four distinct methods. Most nouns (and verbs) are reduplicated in the plural, that is, part of the radical element is repeated, e.g., *gyat* "person," *gyigyat* "people." A second method is the use of certain characteristic prefixes, e.g., *an'on* "hand," *ka-an'on* "hands"; *wai* "one paddles," *lu-wai* "several paddle." Still other plurals are formed by means of internal vowel change, e.g., *gwula* "cloak," *gwila* "cloaks." Finally, a fourth class of plurals is constituted by such nouns as suffix a grammatical element, e.g., *waky* "brother," *wakykw* "brothers."

From such groups of examples as these—and they might be multiplied *ad nauseam*—we cannot but conclude that linguistic form may and should be studied as types of patterning, apart from the associated functions. We are the more justified in this procedure as all languages evince a curious instinct for the development of one or more particular grammatical processes at the expense of others, tending always to lose sight of any explicit functional value that the process may have had in the first instance, delighting, it would seem, in the sheer play of its means of expression. It does not matter that in such a case as the English *goose—geese*, *foul—defile*, *sing—sang—sung* we can prove that we are dealing with historically distinct processes, that the vocalic alternation of *sing* and *sang*, for instance, is centuries older as a specific type of grammatical process than the outwardly parallel one of *goose* and *geese*. It remains true that there is (or was) an inherent tendency in English, at the time such forms as *geese* came into being, for the utilization of vocalic change as a significant linguistic method. Failing the precedent set by such already existing types of vocalic alternation as *sing—sang—sung*, it is highly doubtful if the detailed conditions that brought about the evolution of forms like *teeth* and *geese* from *tooth* and *goose* would have been potent enough to allow the native linguistic feeling to win through to an acceptance of these new types of plural formation as psychologically possible. This feeling for form as such, freely expanding along predetermined lines and greatly inhibited in certain directions by the lack of controlling types of patterning, should be more clearly understood than it seems to be. A general survey of many diverse types of languages is needed to give us the proper perspective on this point. We saw in the preceding chapter that every language has an inner phonetic system of definite pattern. We now learn that it has also a definite feeling for patterning on the level of grammatical formation. Both of these submerged and powerfully controlling impulses to definite form operate as such, regardless of the need for expressing particular concepts or of giving consistent external shape to particular groups of concepts. It goes without saying that these impulses can find realization only in

compounded object of a verb precedes the verbal element in Paiute, Nahuatl, and Iroquois, follows it in Yana, Tsimshian,[29] and the Algonkin languages.

Of all grammatical processes affixing is incomparably the most frequently employed. There are languages, like Chinese and Siamese, that make no grammatical use of elements that do not at the same time possess an independent value as radical elements, but such languages are uncommon. Of the three types of affixing—the use of prefixes, suffixes, and infixes—suffixing is much the commonest. Indeed, it is a fair guess that suffixes do more of the formative work of language than all other methods combined. It is worth noting that there are not a few affixing languages that make absolutely no use of prefixed elements but possess a complex apparatus of suffixes. Such are Turkish, Hottentot, Eskimo, Nootka, and Yana. Some of these, like the three last mentioned, have hundreds of suffixed elements, many of them of a concreteness of significance that would demand expression in the vast majority of languages by means of radical elements. The reverse case, the use of prefixed elements to the complete exclusion of suffixes, is far less common. A good example is Khmer (or Cambodgian), spoken in French Cochin-China, though even here there are obscure traces of old suffixes that have ceased to function as such and are now felt to form part of the radical element.

A considerable majority of known languages are prefixing and suffixing at one and the same time, but the relative importance of the two groups of affixed elements naturally varies enormously. In some languages, such as Latin and Russian, the suffixes alone relate the word to the rest of the sentence, the prefixes being confined to the expression of such ideas as delimit the concrete significance of the radical element without influencing its bearing in the proposition. A Latin form like *remittebantur* "they were being sent back" may serve as an illustration of this type of distribution of elements. The prefixed element *re-* "back" merely qualifies to a certain extent the inherent significance of the radical element *mitt-* "send," while the suffixes *-eba-*, *-nt-*, and *-ur* convey the less concrete, more strictly formal, notions of time, person, plurality, and passivity.

On the other hand, there are languages, like the Bantu group of Africa or the Athabaskan languages[30] of North America, in which the grammatically significant elements precede, those that follow the radical element forming a relatively dispensable class. The Hupa word *te-s-e-ya-te* "I will go," for example, consists of a radical element *-ya-* "to go," three essential prefixes and a formally subsidiary suffix. The element *te-* indicates that the act takes place here and there in space or continuously over space; practically, it has no clear-cut significance apart from such verb stems as it is customary to connect it with. The second prefixed element, *-s-*, is even less easy to define. All we can say is that it is used in verb forms of "definite" time and that it marks action as in progress rather than as beginning or coming to an end. The third prefix, *-e-*, is a pronominal element, "I," which can be used only in "definite" tenses. It is highly important to understand that the use of *-e-* is conditional on that of *-s-* or of certain alternative prefixes and that *te-* also is in practice linked with *-s-*. The group *te-s-e-ya* is a firmly knit grammatical unit. The suffix *-te*, which indicates the future, is no more necessary to its formal balance than is the prefixed *re-* of the Latin word; it is not an element that is capable of standing alone but its function is materially delimiting rather than strictly formal.[31]

Nothing is more natural than the prevalence of reduplication, in other words, the repetition of all or part of the radical element. The process is generally employed, with self-evident symbolism, to indicate such concepts as distribution, plurality, repetition, customary activity, increase of size, added intensity, continuance. Even in English it is not unknown, though it is not generally accounted one of the typical formative devices of our language. Such words as *goody-goody* and *to pooh-pooh* have become accepted as part of our normal vocabulary, but the method of duplication may on occasion be used more freely than is indicated by such stereotyped examples. Such locutions as *a big big man* or *Let it cool till it's thick thick* are far more common, especially in the speech of women and children, than our linguistic text-books would lead one to suppose. In a class by themselves are the really enormous number of words, many of them sound-imitative or contemptuous in psychological tone, that consist of duplications with either change of the vowel or change of the initial consonant—words of the type *sing-song*, *riff-raff*, *wishy-washy*, *harum-skarum*, *roly-poly*. Words of this type are all but universal. Such examples as the Russian *Chudo-Yudo* (a dragon), the Chinese *ping-pang* "rattling of rain on the roof,"[46] the Tibetan *kyang-kyong* "lazy," and the Manchu *porpon parpan* "blear-eyed" are curiously reminiscent, both in form and in psychology, of words nearer home. But it can hardly be said that the duplicative process is of a distinctively grammatical significance in English. We must turn to other languages for illustration. Such cases as Hottentot *go-go* "to look at carefully" (from *go* "to see"), Somali *fen-fen* "to gnaw at on all sides" (from *fen* "to gnaw at"), Chinook *iwi iwi* "to look about carefully, to examine" (from *iwi* "to appear"), or Tsimshian *am'am* "several (are) good" (from *am* "good") do not depart from the natural and fundamental range of significance of the process. A more abstract function is illustrated in Ewe,[47] in which both infinitives and verbal adjectives are formed from verbs by duplication; e.g., *yi* "to go," *yiyi* "to go, act of going"; *wo* "to do," *wowo*[48] "doing"; *mawomawo* "not at all to do" (with both duplicated verb stem and duplicated negative particle). Augmentative duplications are characteristic of Hottentot, e.g., *gam-gam*[49] "to cause to tell" (from *gam* "to tell"). Or the process may be used to derive verbs from nouns, as in Hottentot *khoe-khoe* "to talk Hottentot" (from *khoe-b* "man, Hottentot"), or as in Kwakiutl *metmat* "to eat clams" (radical element *met-* "clam").

The most characteristic examples of reduplication are such as repeat only part of the radical element. It would be possible to demonstrate the existence of a vast number of formal types of such partial duplication, according to whether the process makes use of one or more of the radical consonants, preserves or weakens or alters the radical vowel, or affects the beginning, the middle, or the end of the radical element. The functions are even more exuberantly developed than with simple duplication, though the basic notion, at least in origin, is nearly always one of repetition or continuance. Examples illustrating this fundamental function can be quoted from all parts of the globe. Initially reduplicating are, for instance, Shilh *ggen* "to be sleeping" (from *gen* "to sleep"); Ful *pepeu-'do* "liar" (i.e., "one who always lies"), plural *fefeu-'be* (from *fewa* "to lie"); Bontoc Igorot *anak* "child," *ananak* "children"; *kamu-ek* "I hasten," *kakamu-ek* "I hasten more"; Tsimshian *gyad* "person," *gyigyad* "people"; Nass *gyibayuk* "to fly," *gyigyibayuk* "one who is flying." Psychologically comparable, but with the reduplication at the end, are Somali *ur* "body," plural *urar*; Hausa *suna* "name," plural *sunana-ki;* Washo[50] *gusu* "buffalo," *gususu* "buffaloes"; Takelma[51] *himi-d-* "to talk to," *himim-d-* "to be accustomed to talk to." Even more commonly than simple duplication, this partial duplication of the radical

element has taken on in many languages functions that seem in no way related to the idea of increase. The best known examples are probably the initial reduplication of our older Indo-European languages, which helps to form the perfect tense of many verbs (e.g., Sanskrit *dadarsha* "I have seen," Greek *leloipa* "I have left," Latin *tetigi* "I have touched," Gothic *lelot* "I have let"). In Nootka reduplication of the radical element is often employed in association with certain suffixes; e.g., *hluch-* "woman" forms *hluhluch-'ituhl* "to dream of a woman," *hluhluch-k'ok* "resembling a woman." Psychologically similar to the Greek and Latin examples are many Takelma cases of verbs that exhibit two forms of the stem, one employed in the present or past, the other in the future and in certain modes and verbal derivatives. The former has final reduplication, which is absent in the latter; e.g., *al-yebeb-i'n* "I show (or showed) to him," *al-yeb-in* "I shall show him."

We come now to the subtlest of all grammatical processes, variations in accent, whether of stress or pitch. The chief difficulty in isolating accent as a functional process is that it is so often combined with alternations in vocalic quantity or quality or complicated by the presence of affixed elements that its grammatical value appears as a secondary rather than as a primary feature. In Greek, for instance, it is characteristic of true verbal forms that they throw the accent back as far as the general accentual rules will permit, while nouns may be more freely accented. There is thus a striking accentual difference between a verbal form like *eluthemen* "we were released," accented on the second syllable of the word, and its participial derivative *lutheis* "released," accented on the last. The presence of the characteristic verbal elements *e-* and *-men* in the first case and of the nominal *-s* in the second tends to obscure the inherent value of the accentual alternation. This value comes out very neatly in such English doublets as *to refund* and *a refund*, *to extract* and *an extract*, *to come down* and *a come-down*, *black luster* and *lack-luster eyes*, in which the difference between the verb and the noun is entirely a matter of changing stress. In the Athabaskan languages there are not infrequently significant alternations of accent, as in Navaho *ta-di-gis* "you wash yourself" (accented on the second syllable), *ta-di-gis* "he washes himself" (accented on the first).[52]

Pitch accent may be as functional as stress and is perhaps more often so. The mere fact, however, that pitch variations are phonetically essential to the language, as in Chinese (e.g., *feng* "wind" with a level tone, *feng* "to serve" with a falling tone) or as in classical Greek (e.g., *lab-on* "having taken" with a simple or high tone on the suffixed participial *-on*, *gunaik-on* "of women" with a compound or falling tone on the case suffix *-on*) does not necessarily constitute a functional, or perhaps we had better say grammatical, use of pitch. In such cases the pitch is merely inherent in the radical element or affix, as any vowel or consonant might be. It is different with such Chinese alternations as *chung* (level) "middle" and *chung* (falling) "to hit the middle"; *mai* (rising) "to buy" and *mai* (falling) "to sell"; *pei* (falling) "back" and *pei* (level) "to carry on the back." Examples of this type are not exactly common in Chinese and the language cannot be said to possess at present a definite feeling for tonal differences as symbolic of the distinction between noun and verb.

There are languages, however, in which such differences are of the most fundamental grammatical importance. They are particularly common in the Soudan. In Ewe, for

content, it is true, but not in the least a new structural mold. We can go further and substitute another activity for that of "killing," say "taking." The new sentence, *the man takes the chick*, is totally different from the first sentence in what it conveys, not in how it conveys it. We feel instinctively, without the slightest attempt at conscious analysis, that the two sentences fit precisely the same pattern, that they are really the same fundamental sentence, differing only in their material trappings. In other words, they express identical relational concepts in an identical manner. The manner is here threefold—the use of an inherently relational word (*the*) in analogous positions, the analogous sequence (subject; predicate, consisting of verb and object) of the concrete terms of the sentence, and the use of the suffixed element *-s* in the verb.

Change any of these features of the sentence and it becomes modified, slightly or seriously, in some purely relational, non-material regard. If *the* is omitted (*farmer kills duckling*, *man takes chick*), the sentence becomes impossible; it falls into no recognized formal pattern and the two subjects of discourse seem to hang incompletely in the void. We feel that there is no relation established between either of them and what is already in the minds of the speaker and his auditor. As soon as a *the* is put before the two nouns, we feel relieved. We know that the farmer and duckling which the sentence tells us about are the same farmer and duckling that we had been talking about or hearing about or thinking about some time before. If I meet a man who is not looking at and knows nothing about the farmer in question, I am likely to be stared at for my pains if I announce to him that "the farmer [what farmer?] the duckling [didn't know he had any, whoever he is]." If the fact nevertheless seems interesting enough to communicate, I should be compelled to speak of "*a farmer* up my way" and of "*a duckling* of his." These little words, *the* and *a*, have the important function of establishing a definite or an indefinite reference.

If I omit the first *the* and also leave out the suffixed *-s*, I obtain an entirely new set of relations. *Farmer, kill the duckling* implies that I am now speaking to the farmer, not merely about him; further, that he is not actually killing the bird, but is being ordered by me to do so. The subjective relation of the first sentence has become a vocative one, one of address, and the activity is conceived in terms of command, not of statement. We conclude, therefore, that if the farmer is to be merely talked about, the little *the* must go back into its place and the *-s* must not be removed. The latter element clearly defines, or rather helps to define, statement as contrasted with command. I find, moreover, that if I wish to speak of several farmers, I cannot say *the farmers kills the duckling*, but must say *the farmers kill the duckling*. Evidently *-s* involves the notion of singularity in the subject. If the noun is singular, the verb must have a form to correspond; if the noun is plural, the verb has another, corresponding form.[54] Comparison with such forms as *I kill* and *you kill* shows, moreover, that the *-s* has exclusive reference to a person other than the speaker or the one spoken to. We conclude, therefore, that it connotes a personal relation as well as the notion of singularity. And comparison with a sentence like *the farmer killed the duckling* indicates that there is implied in this overburdened *-s* a distinct reference to present time. Statement as such and personal reference may well be looked upon as inherently relational concepts. Number is evidently felt by those who speak English as involving a necessary relation, otherwise there would be no reason to express the concept twice, in the noun and in the verb. Time also is clearly felt as a relational concept; if it were not, we should be allowed to say *the farmer killed-s* to correspond to *the farmer kill-*

of historical and of unreasoning psychological forces rather than of a logical synthesis of elements that have been clearly grasped in their individuality. This is the case, to a greater or less degree, in all languages, though in the forms of many we find a more coherent, a more consistent, reflection than in our English forms of that unconscious analysis into individual concepts which is never entirely absent from speech, however it may be complicated with or overlaid by the more irrational factors.

A cursory examination of other languages, near and far, would soon show that some or all of the thirteen concepts that our sentence happens to embody may not only be expressed in different form but that they may be differently grouped among themselves; that some among them may be dispensed with; and that other concepts, not considered worth expressing in English idiom, may be treated as absolutely indispensable to the intelligible rendering of the proposition. First as to a different method of handling such concepts as we have found expressed in the English sentence. If we turn to German, we find that in the equivalent sentence (*Der Bauer tötet das Entelein*) the definiteness of reference expressed by the English *the* is unavoidably coupled with three other concepts—number (both *der* and *das* are explicitly singular), case (*der* is subjective; *das* is subjective or objective, by elimination therefore objective), and gender, a new concept of the relational order that is not in this case explicitly involved in English (*der* is masculine, *das* is neuter). Indeed, the chief burden of the expression of case, gender, and number is in the German sentence borne by the particles of reference rather than by the words that express the concrete concepts (*Bauer*, *Entelein*) to which these relational concepts ought logically to attach themselves. In the sphere of concrete concepts too it is worth noting that the German splits up the idea of "killing" into the basic concept of "dead" (*tot*) and the derivational one of "causing to do (or be) so and so" (by the method of vocalic change *töt*); the German *töt-et* analytically *tot*-+vowel change+-*et*) "causes to be dead" is, approximately, the formal equivalent of our *dead-en-s*, though the idiomatic application of this latter word is different.[55]

Wandering still further afield, we may glance at the Yana method of expression. Literally translated, the equivalent Yana sentence would read something like "kill-s he farmer[56] he to duck-ling," in which "he" and "to" are rather awkward English renderings of a general third personal pronoun (*he*, *she*, *it*, or *they*) and an objective particle which indicates that the following noun is connected with the verb otherwise than as subject. The suffixed element in "kill-s" corresponds to the English suffix with the important exceptions that it makes no reference to the number of the subject and that the statement is known to be true, that it is vouched for by the speaker. Number is only indirectly expressed in the sentence in so far as there is no specific verb suffix indicating plurality of the subject nor specific plural elements in the two nouns. Had the statement been made on another's authority, a totally different "tense-modal" suffix would have had to be used. The pronouns of reference ("he") imply nothing by themselves as to number, gender, or case. Gender, indeed, is completely absent in Yana as a relational category.

The Yana sentence has already illustrated the point that certain of our supposedly essential concepts may be ignored; both the Yana and the German sentence illustrate the further point that certain concepts may need expression for which an English-speaking person, or rather the English-speaking habit, finds no need whatever. One could go on

piggledy, trusting that the hearer may construct some kind of a relational pattern out of the general probabilities of the case. The fundamental syntactic relations must be unambiguously expressed. I can afford to be silent on the subject of time and place and number and of a host of other possible types of concepts, but I can find no way of dodging the issue as to who is doing the killing. There is no known language that can or does dodge it, any more than it succeeds in saying something without the use of symbols for the concrete concepts.

We are thus once more reminded of the distinction between essential or unavoidable relational concepts and the dispensable type. The former are universally expressed, the latter are but sparsely developed in some languages, elaborated with a bewildering exuberance in others. But what prevents us from throwing in these "dispensable" or "secondary" relational concepts with the large, floating group of derivational, qualifying concepts that we have already discussed? Is there, after all is said and done, a fundamental difference between a qualifying concept like the negative in *unhealthy* and a relational one like the number concept in *books*? If *unhealthy* may be roughly paraphrased as *not healthy*, may not *books* be just as legitimately paraphrased, barring the violence to English idiom, as *several book?* There are, indeed, languages in which the plural, if expressed at all, is conceived of in the same sober, restricted, one might almost say casual, spirit in which we feel the negative in *unhealthy*. For such languages the number concept has no syntactic significance whatever, is not essentially conceived of as defining a relation, but falls into the group of derivational or even of basic concepts. In English, however, as in French, German, Latin, Greek—indeed in all the languages that we have most familiarity with—the idea of number is not merely appended to a given concept of a thing. It may have something of this merely qualifying value, but its force extends far beyond. It infects much else in the sentence, molding other concepts, even such as have no intelligible relation to number, into forms that are said to correspond to or "agree with" the basic concept to which it is attached in the first instance. If "a man falls" but "men fall" in English, it is not because of any inherent change that has taken place in the nature of the action or because the idea of plurality inherent in "men" must, in the very nature of ideas, relate itself also to the action performed by these men. What we are doing in these sentences is what most languages, in greater or less degree and in a hundred varying ways, are in the habit of doing—throwing a bold bridge between the two basically distinct types of concept, the concrete and the abstractly relational, infecting the latter, as it were, with the color and grossness of the former. By a certain violence of metaphor the material concept is forced to do duty for (or intertwine itself with) the strictly relational.

The case is even more obvious if we take gender as our text. In the two English phrases, "The white woman that comes" and "The white men that come," we are not reminded that gender, as well as number, may be elevated into a secondary relational concept. It would seem a little far-fetched to make of masculinity and femininity, crassly material, philosophically accidental concepts that they are, a means of relating quality and person, person and action, nor would it easily occur to us, if we had not studied the classics, that it was anything but absurd to inject into two such highly attenuated relational concepts as are expressed by "the" and "that" the combined notions of number and sex. Yet all this, and more, happens in Latin. *Illa alba femina quae venit* and *illi albi homines qui veniunt*,

form's sake—however we term this tendency to hold on to formal distinctions once they have come to be—is as natural to the life of language as is the retention of modes of conduct that have long outlived the meaning they once had.

There is another powerful tendency which makes for a formal elaboration that does not strictly correspond to clear-cut conceptual differences. This is the tendency to construct schemes of classification into which all the concepts of language must be fitted. Once we have made up our minds that all things are either definitely good or bad or definitely black or white, it is difficult to get into the frame of mind that recognizes that any particular thing may be both good and bad (in other words, indifferent) or both black and white (in other words, gray), still more difficult to realize that the good-bad or black-white categories may not apply at all. Language is in many respects as unreasonable and stubborn about its classifications as is such a mind. It must have its perfectly exclusive pigeon-holes and will tolerate no flying vagrants. Any concept that asks for expression must submit to the classificatory rules of the game, just as there are statistical surveys in which even the most convinced atheist must perforce be labeled Catholic, Protestant, or Jew or get no hearing. In English we have made up our minds that all action must be conceived of in reference to three standard times. If, therefore, we desire to state a proposition that is as true to-morrow as it was yesterday, we have to pretend that the present moment may be elongated fore and aft so as to take in all eternity.[163] In French we know once for all that an object is masculine or feminine, whether it be living or not; just as in many American and East Asiatic languages it must be understood to belong to a certain form-category (say, ring-round, ball-round, long and slender, cylindrical, sheet-like, in mass like sugar) before it can be enumerated (e.g. "two ball-class potatoes," "three sheet-class carpets") or even said to "be" or "be handled in a definite way" (thus, in the Athabaskan languages and in Yana, "to carry" or "throw" a pebble is quite another thing than to carry or throw a log, linguistically no less than in terms of muscular experience). Such instances might be multiplied at will. It is almost as though at some period in the past the unconscious mind of the race had made a hasty inventory of experience, committed itself to a premature classification that allowed of no revision, and saddled the inheritors of its language with a science that they no longer quite believed in nor had the strength to overthrow. Dogma, rigidly prescribed by tradition, stiffens into formalism. Linguistic categories make up a system of surviving dogma—dogma of the unconscious. They are often but half real as concepts; their life tends ever to languish away into form for form's sake.

There is still a third cause for the rise of this non-significant form, or rather of non-significant differences of form. This is the mechanical operation of phonetic processes, which may bring about formal distinctions that have not and never had a corresponding functional distinction. Much of the irregularity and general formal complexity of our declensional and conjugational systems is due to this process. The plural of *hat* is *hats*, the plural of *self* is *selves*. In the former case we have a true *-s* symbolizing plurality, in the latter a *z*-sound coupled with a change in the radical element of the word of *f* to *v*. Here we have not a falling together of forms that originally stood for fairly distinct concepts—as we saw was presumably the case with such parallel forms as *drove* and *worked*—but a merely mechanical manifolding of the same formal element without a corresponding growth of a new concept. This type of form development, therefore, while

	d, (b)		b	agglutinative (symbolic tinge)	(mildly)	Tibetan
	b	—	c	Agglutinative-fusional	Synthetic (mildly polysynthetic)	Sioux
	c	—	c	Fusional	Synthetic	Salinan (S.W. California)
	d, c	(d)	d, c, a	Symbolic	Analytic	Shilluk (Upper Nile)
C (Simple Mixed-relational)	(b)	b	—	Agglutinative	Synthetic	Bantu
	(c)	c, (d)	a	Fusional	Analytic (mildly synthetic)	French[114]
	b, c, d	b	b	Agglutinative (symbolic tinge)	Polysynthetic	Nootka (Vancouver Island)[115]
	c, (d)	b	—	Fusional-agglutinative	Polysynthetic (mildly)	Chinook (lower Columbia R.)
D (Complex Mixed-relational)	c, (d)	c, (d), (b)	—	Fusional	Polysynthetic	Algonkin
	c	c, d	a	Fusional	Analytic	English
	c, d	c, d	—	Fusional (symbolic tinge)	Synthetic	Latin, Greek, Sanskrit
	c, b, d	c, d	(a)	Fusional (strongly symbolic)	Synthetic	Takelma (S.W. Oregon)
	d, c	c, d	(a)	Symbolic-fusional	Synthetic	Semitic (Arabic, Hebrew)

I need hardly point out that these examples are far from exhausting the possibilities of linguistic structure. Nor that the fact that two languages are similarly classified does not necessarily mean that they present a great similarity on the surface. We are here concerned with the most fundamental and generalized features of the spirit, the technique, and the degree of elaboration of a given language. Nevertheless, in numerous instances we may observe this highly suggestive and remarkable fact, that languages that fall into the same class have a way of paralleling each other in many details or in structural features not envisaged by the scheme of classification. Thus, a most interesting parallel could be drawn on structural lines between Takelma and Greek,[116] languages that are as geographically remote from each other and as unconnected in a historical sense as two languages selected at random can well be. Their similarity goes beyond the generalized facts registered in the table. It would almost seem that linguistic features that are easily thinkable apart from each other, that seem to have no necessary connection in theory, have nevertheless a tendency to cluster or to follow together in the wake of some deep, controlling impulse to form that dominates their drift. If, therefore, we can only be sure of the intuitive similarity of two given languages, of their possession of the same submerged form-feeling, we need not be too much surprised to find that they seek and avoid certain

linguistic developments in common. We are at present very far from able to define just what these fundamental form intuitions are. We can only feel them rather vaguely at best and must content ourselves for the most part with noting their symptoms. These symptoms are being garnered in our descriptive and historical grammars of diverse languages. Some day, it may be, we shall be able to read from them the great underlying ground-plans.

Such a purely technical classification of languages as the current one into "isolating," "agglutinative," and "inflective" (read "fusional") cannot claim to have great value as an entering wedge into the discovery of the intuitional forms of language. I do not know whether the suggested classification into four conceptual groups is likely to drive deeper or not. My own feeling is that it does, but classifications, neat constructions of the speculative mind, are slippery things. They have to be tested at every possible opportunity before they have the right to cry for acceptance. Meanwhile we may take some encouragement from the application of a rather curious, yet simple, historical test. Languages are in constant process of change, but it is only reasonable to suppose that they tend to preserve longest what is most fundamental in their structure. Now if we take great groups of genetically related languages,[117] we find that as we pass from one to another or trace the course of their development we frequently encounter a gradual change of morphological type. This is not surprising, for there is no reason why a language should remain permanently true to its original form. It is interesting, however, to note that of the three intercrossing classifications represented in our table (conceptual type, technique, and degree of synthesis), it is the degree of synthesis that seems to change most readily, that the technique is modifiable but far less readily so, and that the conceptual type tends to persist the longest of all.

The illustrative material gathered in the table is far too scanty to serve as a real basis of proof, but it is highly suggestive as far as it goes. The only changes of conceptual type within groups of related languages that are to be gleaned from the table are of B to A (Shilluk as contrasted with Ewe;[118] Classical Tibetan as contrasted with Modern Tibetan and Chinese) and of D to C (French as contrasted with Latin[119]). But types A : B and C : D are respectively related to each other as a simple and a complex form of a still more fundamental type (pure-relational, mixed-relational). Of a passage from a pure-relational to a mixed-relational type or *vice versa* I can give no convincing examples.

The table shows clearly enough how little relative permanence there is in the technical features of language. That highly synthetic languages (Latin; Sanskrit) have frequently broken down into analytic forms (French; Bengali) or that agglutinative languages (Finnish) have in many instances gradually taken on "inflective" features are well-known facts, but the natural inference does not seem to have been often drawn that possibly the contrast between synthetic and analytic or agglutinative and "inflective" (fusional) is not so fundamental after all. Turning to the Indo-Chinese languages, we find that Chinese is as near to being a perfectly isolating language as any example we are likely to find, while Classical Tibetan has not only fusional but strong symbolic features (e.g., *g-tong-ba* "to give," past *b-tang*, future *gtang*, imperative *thong*); but both are pure-relational languages. Ewe is either isolating or only barely agglutinative, while Shilluk, though soberly analytic, is one of the most definitely symbolic languages I know; both of these

tendency to level the distinction between the subjective and the objective, itself but a late chapter in the steady reduction of the old Indo-European system of syntactic cases. This system, which is at present best preserved in Lithuanian,[139] was already considerably reduced in the old Germanic language of which English, Dutch, German, Danish, and Swedish are modern dialectic forms. The seven Indo-European cases (nominative genitive, dative, accusative, ablative, locative, instrumental) had been already reduced to four (nominative genitive, dative, accusative). We know this from a careful comparison of and reconstruction based on the oldest Germanic dialects of which we still have records (Gothic, Old Icelandic, Old High German, Anglo-Saxon). In the group of West Germanic dialects, for the study of which Old High German, Anglo-Saxon, Old Frisian, and Old Saxon are our oldest and most valuable sources, we still have these four cases, but the phonetic form of the case syllables is already greatly reduced and in certain paradigms particular cases have coalesced. The case system is practically intact but it is evidently moving towards further disintegration. Within the Anglo-Saxon and early Middle English period there took place further changes in the same direction. The phonetic form of the case syllables became still further reduced and the distinction between the accusative and the dative finally disappeared. The new "objective" is really an amalgam of old accusative and dative forms; thus, *him*, the old dative (we still say *I give him the book*, not "abbreviated" from *I give to him*; compare Gothic *imma*, modern German *ihm*), took over the functions of the old accusative (Anglo-Saxon *hine*, compare Gothic *ina*, Modern German *ihn*) and dative. The distinction between the nominative and accusative was nibbled away by phonetic processes and morphological levelings until only certain pronouns retained distinctive subjective and objective forms.

In later medieval and in modern times there have been comparatively few apparent changes in our case system apart from the gradual replacement of *thou—thee* (singular) and subjective *ye*—objective *you* (plural) by a single undifferentiated form *you*. All the while, however, the case system, such as it is (subjective-objective, really absolutive, and possessive in nouns; subjective, objective, and possessive in certain pronouns) has been steadily weakening in psychological respects. At present it is more seriously undermined than most of us realize. The possessive has little vitality except in the pronoun and in animate nouns. Theoretically we can still say *the moon's phases* or *a newspaper's vogue*; practically we limit ourselves pretty much to analytic locutions like *the phases of the moon* and *the vogue of a newspaper*. The drift is clearly toward the limitation, of possessive forms to animate nouns. All the possessive pronominal forms except *its* and, in part, *their* and *theirs*, are also animate. It is significant that *theirs* is hardly ever used in reference to inanimate nouns, that there is some reluctance to so use *their*, and that *its* also is beginning to give way to *of it*. *The appearance of it* or *the looks of it* is more in the current of the language than *its appearance*. It is curiously significant that *its young* (referring to an animal's cubs) is idiomatically preferable to *the young of it*. The form is only ostensibly neuter, in feeling it is animate; psychologically it belongs with *his children*, not with *the pieces of it*. Can it be that so common a word as *its* is actually beginning to be difficult? Is it too doomed to disappear? It would be rash to say that it shows signs of approaching obsolescence, but that it is steadily weakening is fairly clear.[140] In any event, it is not too much to say that there is a strong drift towards the restriction of the inflected possessive forms to animate nouns and pronouns.

a new-born baby, we ask *Is it a he or a she?* quite as though *he* and *she* were the equivalents of *male* and *female* or *boy* and *girl*. All in all, we may conclude that our English case system is weaker than it looks and that, in one way or another, it is destined to get itself reduced to an absolutive (caseless) form for all nouns and pronouns but those that are animate. Animate nouns and pronouns are sure to have distinctive possessive forms for an indefinitely long period.

Meanwhile observe that the old alignment of case forms is being invaded by two new categories—a positional category (pre-verbal, post-verbal) and a classificatory category (animate, inanimate). The facts that in the possessive animate nouns and pronouns are destined to be more and more sharply distinguished from inanimate nouns and pronouns (*the man's*, but *of the house*; *his*, but *of it*) and that, on the whole, it is only animate pronouns that distinguish pre-verbal and post-verbal forms[143] are of the greatest theoretical interest. They show that, however the language strive for a more and more analytic form, it is by no means manifesting a drift toward the expression of "pure" relational concepts in the Indo-Chinese manner.[144] The insistence on the concreteness of the relational concepts is clearly stronger than the destructive power of the most sweeping and persistent drifts that we know of in the history and prehistory of our language.

The drift toward the abolition of most case distinctions and the corresponding drift toward position as an all-important grammatical method are accompanied, in a sense dominated, by the last of the three major drifts that I have referred to. This is the drift toward the invariable word. In analyzing the "whom" sentence I pointed out that the rhetorical emphasis natural to an interrogative pronoun lost something by its form variability (*who*, *whose*, *whom*). The striving for a simple, unnuanced correspondence between idea and word as invariable as may be, is very strong in English. It accounts for a number of tendencies which at first sight seem unconnected. Certain well-established forms, like the present third person singular *-s* of *works* or the plural *-s* of *books*, have resisted the drift to invariable words, possibly because they symbolize certain stronger form cravings that we do not yet fully understand. It is interesting to note that derivations that get away sufficiently from the concrete notion of the radical word to exist as independent conceptual centers are not affected by this elusive drift. As soon as the derivation runs danger of being felt as a mere nuancing of, a finicky play on, the primary concept, it tends to be absorbed by the radical word, to disappear as such. English words crave spaces between them, they do not like to huddle in clusters of slightly divergent centers of meaning, each edging a little away from the rest. *Goodness*, a noun of quality, almost a noun of relation, that takes its cue from the concrete idea of "good" without necessarily predicating that quality (e.g., *I do not think much of his goodness*) is sufficiently spaced from *good* itself not to need fear absorption. Similarly, *unable* can hold its own against *able* because it destroys the latter's sphere of influence; *unable* is psychologically as distinct from *able* as is *blundering* or *stupid*. It is different with adverbs in *-ly*. These lean too heavily on their adjectives to have the kind of vitality that English demands of its words. *Do it quickly!* drags psychologically. The nuance expressed by *quickly* is too close to that of *quick*, their circles of concreteness are too nearly the same, for the two words to feel comfortable together. The adverbs in *-ly* are likely to go to the wall in the not too distant future for this very reason and in face of their obvious usefulness. Another

that it could not move along identically the same drift. The general drift of a language has its depths. At the surface the current is relatively fast. In certain features dialects drift apart rapidly. By that very fact these features betray themselves as less fundamental to the genius of the language than the more slowly modifiable features in which the dialects keep together long after they have grown to be mutually alien forms of speech. But this is not all. The momentum of the more fundamental, the pre-dialectic, drift is often such that languages long disconnected will pass through the same or strikingly similar phases. In many such cases it is perfectly clear that there could have been no dialectic interinfluencing.

These parallelisms in drift may operate in the phonetic as well as in the morphological sphere, or they may affect both at the same time. Here is an interesting example. The English type of plural represented by *foot*: *feet*, *mouse*: *mice* is strictly parallel to the German *Fuss*: *Füsse*, *Maus*: *Mäuse*. One would be inclined to surmise that these dialectic forms go back to old Germanic or West-Germanic alternations of the same type. But the documentary evidence shows conclusively that there could have been no plurals of this type in primitive Germanic. There is no trace of such vocalic mutation ("umlaut") in Gothic, our most archaic Germanic language. More significant still is the fact that it does not appear in our oldest Old High German texts and begins to develop only at the very end of the Old High German period (circa 1000 A.D.). In the Middle High German period the mutation was carried through in all dialects. The typical Old High German forms are singular *fuoss*, plural *fuossi*;[145] singular *mus*, plural *musi*. The corresponding Middle High German forms are *fuoss*, *füesse*, *mus*, *müse*. Modern German *Fuss*: *Füsse*, *Maus*: *Mäuse* are the regular developments of these mediæval forms. Turning to Anglo-Saxon, we find that our modern English forms correspond to *fot*, *fet*; *mus*, *mys*.[146] These forms are already in use in the earliest English monuments that we possess, dating from the eighth century, and thus antedate the Middle High German forms by three hundred years or more. In other words, on this particular point it took German at least three hundred years to catch up with a phonetic-morphological drift[147] that had long been under way in English. The mere fact that the affected vowels of related words (Old High German *uo*, Anglo-Saxon *o*) are not always the same shows that the affection took place at different periods in German and English.[148] There was evidently some general tendency or group of tendencies at work in early Germanic, long before English and German had developed as such, that eventually drove both of these dialects along closely parallel paths.

How did such strikingly individual alternations as *fot*: *fet*, *fuoss*: *füesse* develop? We have now reached what is probably the most central problem in linguistic history, gradual phonetic change. "Phonetic laws" make up a large and fundamental share of the subject-matter of linguistics. Their influence reaches far beyond the proper sphere of phonetics and invades that of morphology, as we shall see. A drift that begins as a slight phonetic readjustment or unsettlement may in the course of millennia bring about the most profound structural changes. The mere fact, for instance, that there is a growing tendency to throw the stress automatically on the first syllable of a word may eventually change the fundamental type of the language, reducing its final syllables to zero and driving it to the use of more and more analytical or symbolic[149] methods. The English phonetic laws

though this is an extreme case hardly ever realized in practice. The highly significant thing about such phonetic interinfluencings is the strong tendency of each language to keep its phonetic pattern intact. So long as the respective alignments of the similar sounds is different, so long as they have differing "values" and "weights" in the unrelated languages, these languages cannot be said to have diverged materially from the line of their inherent drift. In phonetics, as in vocabulary, we must be careful not to exaggerate the importance of interlinguistic influences.

I have already pointed out in passing that English has taken over a certain number of morphological elements from French. English also uses a number of affixes that are derived from Latin and Greek. Some of these foreign elements, like the *-ize* of *materialize* or the *-able* of *breakable*, are even productive to-day. Such examples as these are hardly true evidences of a morphological influence exerted by one language on another. Setting aside the fact that they belong to the sphere of derivational concepts and do not touch the central morphological problem of the expression of relational ideas, they have added nothing to the structural peculiarities of our language. English was already prepared for the relation of *pity* to *piteous* by such a native pair as *luck* and *lucky*; *material* and *materialize* merely swelled the ranks of a form pattern familiar from such instances as *wide* and *widen*. In other words, the morphological influence exerted by foreign languages on English, if it is to be gauged by such examples as I have cited, is hardly different in kind from the mere borrowing of words. The introduction of the suffix *-ize* made hardly more difference to the essential build of the language than did the mere fact that it incorporated a given number of words. Had English evolved a new future on the model of the synthetic future in French or had it borrowed from Latin and Greek their employment of reduplication as a functional device (Latin *tango*: *tetigi*; Greek *leipo*: *leloipa*) we should have the right to speak of true morphological influence. But such far-reaching influences are not demonstrable. Within the whole course of the history of the English language we can hardly point to one important morphological change that was not determined by the native drift, though here and there we may surmise that this drift was hastened a little by the suggestive influence of French forms.[172]

It is important to realize the continuous, self-contained morphological development of English and the very modest extent to which its fundamental build has been affected by influences from without. The history of the English language has sometimes been represented as though it relapsed into a kind of chaos on the arrival of the Normans, who proceeded to play nine-pins with the Anglo-Saxon tradition. Students are more conservative today. That a far-reaching analytic development may take place without such external foreign influence as English was subjected to is clear from the history of Danish, which has gone even further than English in certain leveling tendencies. English may be conveniently used as an *a fortiori* test. It was flooded with French loan-words during the later Middle Ages, at a time when its drift toward the analytic type was especially strong. It was therefore changing rapidly both within and on the surface. The wonder, then, is not that it took on a number of external morphological features, mere accretions on its concrete inventory, but that, exposed as it was to remolding influences, it remained so true to its own type and historic drift. The experience gained from the study of the English language is strengthened by all that we know of documented linguistic history. Nowhere do we find any but superficial morphological

Malay Peninsula and the tremendous island world to the south and east (except Australia and the greater part of New Guinea). In this vast region we find represented no less than three distinct races—the Negro-like Papuans of New Guinea and Melanesia, the Malay race of Indonesia, and the Polynesians of the outer islands. The Polynesians and Malays all speak languages of the Malayo-Polynesian group, while the languages of the Papuans belong partly to this group (Melanesian), partly to the unrelated languages ("Papuan") of New Guinea.[185] In spite of the fact that the greatest race cleavage in this region lies between the Papuans and the Polynesians, the major linguistic division is of Malayan on the one side, Melanesian and Polynesian on the other.

As with race, so with culture. Particularly in more primitive levels, where the secondarily unifying power of the "national"[186] ideal does not arise to disturb the flow of what we might call natural distributions, is it easy to show that language and culture are not intrinsically associated. Totally unrelated languages share in one culture, closely related languages—even a single language—belong to distinct culture spheres. There are many excellent examples in aboriginal America. The Athabaskan languages form as clearly unified, as structurally specialized, a group as any that I know of.[187] The speakers of these languages belong to four distinct culture areas—the simple hunting culture of western Canada and the interior of Alaska (Loucheux, Chipewyan), the buffalo culture of the Plains (Sarcee), the highly ritualized culture of the southwest (Navaho), and the peculiarly specialized culture of northwestern California (Hupa). The cultural adaptability of the Athabaskan-speaking peoples is in the strangest contrast to the inaccessibility to foreign influences of the languages themselves.[188] The Hupa Indians are very typical of the culture area to which they belong. Culturally identical with them are the neighboring Yurok and Karok. There is the liveliest intertribal intercourse between the Hupa, Yurok, and Karok, so much so that all three generally attend an important religious ceremony given by any one of them. It is difficult to say what elements in their combined culture belong in origin to this tribe or that, so much at one are they in communal action, feeling, and thought. But their languages are not merely alien to each other; they belong to three of the major American linguistic groups, each with an immense distribution on the northern continent. Hupa, as we have seen, is Athabaskan and, as such, is also distantly related to Haida (Queen Charlotte Islands) and Tlingit (southern Alaska); Yurok is one of the two isolated Californian languages of the Algonkin stock, the center of gravity of which lies in the region of the Great Lakes; Karok is the northernmost member of the Hokan group, which stretches far to the south beyond the confines of California and has remoter relatives along the Gulf of Mexico.

Returning to English, most of us would readily admit, I believe, that the community of language between Great Britain and the United States is far from arguing a like community of culture. It is customary to say that they possess a common "Anglo-Saxon" cultural heritage, but are not many significant differences in life and feeling obscured by the tendency of the "cultured" to take this common heritage too much for granted? In so far as America is still specifically "English," it is only colonially or vestigially so; its prevailing cultural drift is partly towards autonomous and distinctive developments, partly towards immersion in the larger European culture of which that of England is only a particular facet. We cannot deny that the possession of a common language is still and will long continue to be a smoother of the way to a mutual cultural understanding

between England and America, but it is very clear that other factors, some of them rapidly cumulative, are working powerfully to counteract this leveling influence. A common language cannot indefinitely set the seal on a common culture when the geographical, political, and economic determinants of the culture are no longer the same throughout its area.

Language, race, and culture are not necessarily correlated. This does not mean that they never are. There is some tendency, as a matter of fact, for racial and cultural lines of cleavage to correspond to linguistic ones, though in any given case the latter may not be of the same degree of importance as the others. Thus, there is a fairly definite line of cleavage between the Polynesian languages, race, and culture on the one hand and those of the Melanesians on the other, in spite of a considerable amount of overlapping.[189] The racial and cultural division, however, particularly the former, are of major importance, while the linguistic division is of quite minor significance, the Polynesian languages constituting hardly more than a special dialectic subdivision of the combined Melanesian-Polynesian group. Still clearer-cut coincidences of cleavage may be found. The language, race, and culture of the Eskimo are markedly distinct from those of their neighbors;[190] in southern Africa the language, race, and culture of the Bushmen offer an even stronger contrast to those of their Bantu neighbors. Coincidences of this sort are of the greatest significance, of course, but this significance is not one of inherent psychological relation between the three factors of race, language, and culture. The coincidences of cleavage point merely to a readily intelligible historical association. If the Bantu and Bushmen are so sharply differentiated in all respects, the reason is simply that the former are relatively recent arrivals in southern Africa. The two peoples developed in complete isolation from each other; their present propinquity is too recent for the slow process of cultural and racial assimilation to have set in very powerfully. As we go back in time we shall have to assume that relatively scanty populations occupied large territories for untold generations and that contact with other masses of population was not as insistent and prolonged as it later became. The geographical and historical isolation that brought about race differentiations was naturally favorable also to far-reaching variations in language and culture. The very fact that races and cultures which are brought into historical contact tend to assimilate in the long run, while neighboring languages assimilate each other only casually and in superficial respects[191], indicates that there is no profound causal relation between the development of language and the specific development of race and of culture.

But surely, the wary reader will object, there must be some relation between language and culture, and between language and at least that intangible aspect of race that we call “temperament”. Is it not inconceivable that the particular collective qualities of mind that have fashioned a culture are not precisely the same as were responsible for the growth of a particular linguistic morphology? This question takes us into the heart of the most difficult problems of social psychology. It is doubtful if any one has yet attained to sufficient clarity on the nature of the historical process and on the ultimate psychological factors involved in linguistic and cultural drifts to answer it intelligently. I can only very briefly set forth my own views, or rather my general attitude. It would be very difficult to prove that “temperament”, the general emotional disposition of a people[192], is basically responsible for the slant and drift of a culture, however much it may manifest

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2. *Salinan* (S.W. California), (150) (155)
3. *Sanskrit* (India), (54) (75) (82) (151) (154) (175) (200) (207) (209) (210)
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47. Swiss, French, (225)
48. Syllabifying, (56)
49. Symbolic languages, (133) (134) (147) (150) (151)

Footnote 160: These confusions are more theoretical than real, however. A language has countless methods of avoiding practical ambiguities.
Footnote 161: A type of adjustment generally referred to as “analogical leveling.”
Footnote 162: Isolated from other German dialects in the late fifteenth and early sixteenth centuries. It is therefore a good test for gauging the strength of the tendency to “umlaut,” particularly as it has developed a strong drift towards analytic methods.
Footnote 163: *Ch* as in German *Buch*.
Footnote 164: The earlier students of English, however, grossly exaggerated the general “disintegrating” effect of French on middle English. English was moving fast toward a more analytic structure long before the French influence set in.
Footnote 165: For we still name our new scientific instruments and patent medicines from Greek and Latin.
Footnote 166: One might all but say, “has borrowed at all.”
Footnote 167: See page 206.
Footnote 168: Ugro-Finnic and Turkish (Tartar)
Footnote 169: Probably, in Sweet’s terminology, high-back (or, better, between back and “mixed” positions)-narrow-unrounded. It generally corresponds to an Indo-European long *u*.
Footnote 170: There seem to be analogous or partly analogous sounds in certain languages of the Caucasus.
Footnote 171: This can actually be demonstrated for one of the Athabaskan dialects of the Yukon.
Footnote 172: In the sphere of syntax one may point to certain French and Latin influences, but it is doubtful if they ever reached deeper than the written language. Much of this type of influence belongs rather to literary style than to morphology proper.
Footnote 173: See page 163.
Footnote 174: A group of languages spoken in southeastern Asia, of which Khmer (Cambodgian) is the best known representative.
Footnote 175: A group of languages spoken in northeastern India.
Footnote 176: I have in mind, e.g., the presence of postpositions in Upper Chinook, a feature that is clearly due to the influence of neighboring Sahaptin languages; or the use by Takelma of instrumental prefixes, which are likely to have been suggested by neighboring “Hokan” languages (Shasta, Karok).
Footnote 177: Itself an amalgam of North “French” and Scandinavian elements.
Footnote 178: The “Celtic” blood of what is now England and Wales is by no means confined to the Celtic-speaking regions—Wales and, until recently, Cornwall. There is every reason to believe that the invading Germanic tribes (Angles, Saxons, Jutes) did not exterminate the Brythonic Celts of England nor yet drive them altogether into Wales and Cornwall (there has been far too much “driving” of conquered peoples into mountain fastnesses and land’s ends in our histories), but simply intermingled with them and imposed their rule and language upon them.
Footnote 179: In practice these three peoples can hardly be kept altogether distinct. The terms have rather a local-sentimental than a clearly racial value. Intermarriage has gone on steadily for centuries and it is only in certain outlying regions that we get relatively pure types, e.g., the Highland Scotch of the Hebrides. In America, English, Scotch, and Irish strands have become inextricably interwoven.

Footnote 194: I can hardly stop to define just what kind of expression is “significant” enough to be called art or literature. Besides, I do not exactly know. We shall have to take literature for granted.
Footnote 195: This “intuitive surrender” has nothing to do with subservience to artistic convention. More than one revolt in modern art has been dominated by the desire to get out of the material just what it is really capable of. The impressionist wants light and color because paint can give him just these; “literature” in painting, the sentimental suggestion of a “story,” is offensive to him because he does not want the virtue of his particular form to be dimmed by shadows from another medium. Similarly, the poet, as never before, insists that words mean just what they really mean.
Footnote 196: See Benedetto Croce, “Aesthetic.”
Footnote 197: The question of the transferability of art productions seems to me to be of genuine theoretic interest. For all that we speak of the sacrosanct uniqueness of a given art work, we know very well, though we do not always admit it, that not all productions are equally intractable to transference. A Chopin étude is inviolate; it moves altogether in the world of piano tone. A Bach fugue is transferable into another set of musical timbres without serious loss of esthetic significance. Chopin plays with the language of the piano as though no other language existed (the medium “disappears”); Bach speaks the language of the piano as a handy means of giving outward expression to a conception wrought in the generalized language of tone.
Footnote 198: Provided, of course, Chinese is careful to provide itself with the necessary scientific vocabulary. Like any other language, it can do so without serious difficulty if the need arises.
Footnote 199: Aside from individual peculiarities of diction, the selection and evaluation of particular words as such.
Footnote 200: Not by any means a great poem, merely a bit of occasional verse written by a young Chinese friend of mine when he left Shanghai for Canada.
Footnote 201: The old name of the country about the mouth of the Yangtsze.
Footnote 202: A province of Manchuria.
Footnote 203: I.e., China.
Footnote 204: Poetry everywhere is inseparable in its origins from the singing voice and the measure of the dance. Yet accentual and syllabic types of verse, rather than quantitative verse, seem to be the prevailing norms.
Footnote 205: Quantitative distinctions exist as an objective fact. They have not the same inner, psychological value that they had in Greek.
Footnote 206: Verhaeren was no slave to the Alexandrine, yet he remarked to Symons, *à propos* of the translation of *Les Aubes*, that while he approved of the use of rhymeless verse in the English version, he found it “meaningless” in French.