Chapter 1

1. Experience consists solely of sense-datum. Yet, everyday talk goes on without explanations in "intimately sensory terms."

    This is due to the conceptualization that occurs of empirically observed phenomena. We speak of not glimpses (sense-data) but things glimpsed (objects/things). We best identify our sense-data by reflecting them in such external objects. Thus, the objects/things in sharpest focus are those whose corresponding sense-datum is common and conspicuous; we refer to them most commonly in our conversations.

    There have been attempts to extricate a pure stream of sense data from the midst of all our conceptualization. In "the spirit of a rational reconstruction", a philosopher may try to see talk of ordinary physical things as a device for simplifying the disorderly account of the passing show. But "immediate experience simply will not, of itself, cohere to an autonomous domain."

    Reference to sense-data requires-*depends*-on conceptualization: "Actual memories mostly are traces not of past sensations but of past conceptualization and verbalization." How, then, can we ever eliminate concepts? We may enquire into the sensory background of it all, but we can concepts are necessary for and inseparable from language. There is no idiom that we may receive more familiar than our concepts.

    Of course, it does seem rather perverse to say that we need evidence of the reality of physical things, but 'evidence' is too ill-defined to carry the weight of this sentence, and we would end up stripping it of its very meaning in language-for physical things themselves are, in general, evidence.

    "The familiar material objects may not be all that is real, but they are admirable examples." Quine speaks of the lexicographer, Dr. Johnson, who demonstrated the reality of the concept "stone" by kicking it. However, some mistreat ordinary language as "sacrosanct". Quine says that we may even end up finding that that best account of the world does not accord existence to many ordinary physical things. *"Such* eventual departures from the Johnsonian usage could partake of the spirit of science and even of the evolutionary spirit of language itself."

    "Our boat stays afloat because we warp gradually enough to avoid rupture." We must begin with Johnsonian usage, for theories are all predicated on our interim acceptance of physical objects. "We are limited in how we can start even if not in where we may end up."

    So our assumption that we know external objects by our senses is one among various-and we may inquire more closely into it. The fact that the inquiry would be under that very assumption makes no difference-we may, as Quine says, warp our boat.

    All investigations must be conducted under some conceptual scheme, and the best one-as far as we know-shall be used.

    "Our conceptual firsts are middle-sized, middle-distanced objects."

    In general, we are only very vaguely aware of the difference between cues (firsthand empirical experience) and conceptualization. We cannot, as has been shown, strip away the conceptualization completely and thus leave a description of the objective world. We can, however, retrospectively investigate the world as a whole and "distinguish the components of theory-building, as we distinguish the proteins and carbohydrates while subsisting on them."

    The difference between man's world view and his cues is the domain within which he can revise his theories and concepts.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

2. 'Red' is a word with a higher degree of objectivity than 'Ouch', for an utterance of 'Red' can be verified to be justified with more certainty by a societal observer, for he, too, can observe the color which elicited the utterance. However, an observer cannot feel the pain of the one who utters when he says 'Ouch'.

In general, if a term is learned by induction, then there must be 1. Enough in common between the separate instances to have something to generalize upon and 2. The object which elicits the term must be enough alike from different points of view simultaneously so that the teacher and the student can agree upon the thing viewed. However, from occasion to occasion, likewise points of view are available to both. All of this is what makes objects focal to reference and thought.

Now, when multiple people observe the color 'Red', the exact tint that hits all their retinas differs. However, the objective pull triggers a myriad of corrective cues unconsciously.

Our socialization is so perfect that a painter has to *train* himself to set these aside and register his true retinal intake.

Consider the example of two men, one of whom is colorblind between red and green.

By societal training, both men are pretty good at attributing 'red' to just the red things.

However, their internal private mechanisms used to achieve these similar results must differ vastly.

Thus:

"Different persons growing up in the same language are like different bushes trimmed and trained to take the shape of identical elephants. The anatomical details of twigs and branches will fulfill the elephantine form differently from bush to bush, but the overall outward results are alike."

This is a theme that will be dissected at length in the future.

3. Quine initially exposits on two modes of learning language: 1) *learning sentences as wholes by a direct conditioning of them to appropriate non-verbal stimulations,* and 2) *producing further sentences from the foregoing ones by analogical substitution*.

However, he then asserts that saying we learn purely by these two modes would greatly confine the extent of our learning. It would limit us to speak only about sense-data.

"Association of sentences is wanted not just with non-verbal stimulation, but with other sentences, if we are to exploit finished conceptualizations and not just repeat them." This is how theories are formed.

"The opposite dependence is also common: the power of a non-verbal stimulus to elicit a given sentence commonly depends on earlier associations of sentences with sentences."

Quine gives the example of a man who mixes two liquids to obtain a green liquid. The man declares, "There was copper in it." This reaction is elicited by the non-verbal stimulation, but it also depended on the man's knowledge of chemical reactions. The theory as a whole-chemistry, logic, etc.- used is a "fabric of sentences variously associated to one another" and to the stimuli. The vast verbal structure that is formed by the association of sentences (linked multifariously to the base blocks of non-verbal stimulation) encompasses our entire world.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Here, all steps but the last are unspoken. As the theory becomes second nature, the skipping becomes more and more implicit. There is no telling how much shortcutting one does to explicate a reaction.

The distinction between eternal sentences-which may be elicited only once, during, perhaps, a chemistry exam for e.g. "Copper oxide is green"-and occasion sentences-like "There was copper in it"-exceeds the arch analogy, says Quine. The eternal ones drop out "under the transitivity of conditioning, leaving no trace except implicitly."

This structure of interconnected sentences includes everything we may ever say about the world, but a "middle-sized scrap of theory" is usually sufficient to justify a given sentence.

4. Quine now questions what a 'word' is: Where does a printer put his space?

    Words are learn either in isolation ostensively (one-word sentences) or contextually for e.g. 'sake' (or by abstraction as a fragment of sentences learned as wholes.)

    Being given a description of a word is a common way of learning language. This is under contextual learning, but Quine feels it deserves separate notice.

    We learn new words by the power of analogy; but to say this is to depart from the primary sense of analogy. For an analogy is a comparison between two *known* objects.

    Quine is citing as example how we learn the word 'molecule': The analogies used to understand it are limited. We majorly use our physics doctrine and understand it contextually as a fragment of sentences.

    Which leads us to two distinct phases regarding a theory: First we must understand what the objects are, and secondly we must understand what the theory says about them.

    In the case of molecules, the two phases are *somewhat* separable. However, when one speaks of 'wavicles', there is "virtually no significant separation". The meaning of 'wavicles' is learnt completely by sentences of the theory.

5. A theory of evidence is the same as a theory of the psychology of stimulus and response (applied to sentences). The pattern of condition is inconstant, "but there are points of general congruence". There must be, for otherwise communication would be rendered impossible.

    When we look for evidence, what we really do is keep our senses open to look for data indicating favorable implications. Sometimes, we do not get such stimuli. From this follows prediction, which is the conjecturing of further sensory evidence "for a foregone conclusion".

    Quine says that sometimes, when evidence goes against theory, and our prediction turns out to be incorrect, if the theory is very strongly rooted, we may modify the evidence to suit the theory, blaming unintended interference. He refers to this as the "tail wagging the dog". In general, however, theories wither when their predictions fail.

    "The sifting of evidence seems to be a very passive affair. What conscious police does one follow, then?"

    Quine feels that simplicity is the main criterion for choosing a theory. It is an implicit guider; we try to simplify all our cues as much as we can into a theory.

    "The neurological mechanism of the drive for simplicity is undoubtedly fundamental though unknown."

    Simplicity also tends to enhance a theory's scope. We need lesser data to induct.

    A simpler theory is also easier to understand and has more familiar principles.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Finally, a bit of a paradox: We tend to conservatively limit revision of our theory for our creative imagination, conservatism being the counsel of laziness.

6. A scientist may posit a theory of extraordinary unseen things for e.g. molecules and it can be a better theory than the more seemingly straightforward one due to its simplicity and familiarity of underlying principles.
Even what we say of ordinary things, let alone molecules, far exceeds our raw data; we extrapolate and conceptualize and thus posit and speak of ordinary things (and molecules). Quine briefly introduces the concept of an ontological conceptual scheme. Theories are at the bottom based on raw data, and there can be multiple methods of universal systematization that are equally good (simple, familiar, etc.) This shows that no theory is completely determined by the sense-data. There goes an objective definition of truth, too, then (although the scientific method is the way to truth, it gives us no unique definition of truth). We can only speak of a statement being true with respect to a given theory.
"Have we now so far lowered our sights as to settle for a relativistic doctrine of truth?" Not so, says Quine, because we would place our own world-theory beyond all others.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Chapter 2

7. We have so far seen how from sense-data we form our concepts and things and language, even though sense-data and the others do not, says Quine, resemble each other much. We shall now see how much of language can be made sense of in terms of sense-data and how much variation we can have in our conceptual scheme with the invariant base of empirical knowledge.

   A well-known riddle is: How do we distinguish between the extremely diverging conceptual schemes of two men whose dispositions to external stimulus are the same? But one may protest a distinction of meaning which does not cause a difference in dispositions is no difference in meaning at all.

   So we rephrase the riddle thus: The totality of a speaker's language can be mapped onto itself such that the speaker's dispositions to stimulus remains the same, but the mapping is not a correlation of sentences with equivalent sentences in *any* sense of that word.

   And so Quine's answer to the riddle is: One can do this mapping such that each individual disposition is incompatible, but the totality of the languages mapped is compatible. This he considers the principle of translation.

   The degree of divergence of a certain disposition is inversely proportional to how firm or direct its link is with non-verbal stimulation.

   Language is the "complex of present dispositions to verbal behavior." Speakers of the same language resemble one another-not in terms of how they acquired language, but in terms of their verbal behaviors to stimulus. Past stimulus partly helps acquire language and partly helps acquire collateral information. Quine delays talk on this dichotomy.

   A man's current disposition to current stimulus is determined, however indirectly, by all his past stimulations.

   So we may set boundaries to signify the current stimulus for our needs, thus drawing a vague line between language acquired and language in use. This length of current stimulus Quine calls the *modulus* of the stimulus.

   The linguist's task is to recover a man's current language (a man of a hitherto untouched people, so that translation may be truly radical) by seeing the forces impinging on the native's surfaces and the observable behavior of the native.

   When a conspicuous stimulus is followed by a conspicuous response, the linguist may tentatively begin jotting down translation possibilities.

   We may further prompt assent or dissent. Note that that which prompts an assent/dissent is both the stimulus and our query. We may use various tactics to obtain conclusions via assent and dissent, and may need to revise our working hypothesis multiple times or even discard it.

8. Why "stimulations" and not "things"? "Stimulation can remain the same though the rabbit be supplanted by a counterfeit. Conversely, stimulation can vary in its power to prompt assent to 'Gavagai' because of variations in angle, lighting, and color contrast, though the rabbit remain the same. In experimentally equating the uses of 'Gavagai' and 'Rabbit' it is stimulations that must be made to match, not animals."

   The response which is elicited by the ocular irradiation is subject to social assessment. ("We are after the native's socially inculcated linguistic usage.") Although the fine details of the sense-data differ, the linguist and the native make adjustments.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Now, the visual stimulations cannot be thought of as a static pattern. Some things are best identified by their movement. Thus, Quine re-introduces the modulus of the stimulus; evolving irradiation patterns in that duration.

Meaning is what a sentence shares with its translation, and translation at this stage turns solely to nonverbal stimulation.

What is meaning?

Quine presently deals with the flavor of meaning he calls 'stimulus meaning'.

The affirmative stimulus meaning of a sentence is the class of stimulations that would prompt his assent. The negative stimulus meaning is the opposite. The stimulus meaning is the ordered pair of the two. It can be phrased in degrees, by doubtfulness of assent and dissent, but Quine decides to forbear.

Equating stimulus meanings is close enough to Putnam's idea of using stereotypes and the socially determined extension.

Stimulus meanings may change.

Many stimulations may belong to neither affirmation nor negation. Therefore, comparison of whole stimulus meaning is better than comparison of merely affirmative stimulus meanings.

"The stimulation is what activates the disposition as opposed to what instills it (even though the stimulation chance to contribute to somehow to the instilling of some further disposition)."

The stimulation/s which elicits an affirmative must be considered as a universal (later phrased as a distribution about a central norm) and not a dated particular event.

This is because the events can have arbitrarily small differences, and thus the class of stimulations would be unwieldy and huge. However, they have in common an event form. Therefore, they have to be construed as a universal. "Certainly it is hopeless nonsense to talk thus of unrealized particulars and try to assemble them into classes."

Previously, we were impressed with how interdependent a sentence in a language is with other sentences. This would make it rather hard to begin with translation. Fortunately, stimulus meaning isolates "a sort of net empirical import" of each sentence.

9. Occasion sentences are those whose assent or dissent depends on an appropriate current stimulus. Standing sentences are those whose do not. However, if the modulus is extended long enough, a standing sentence may become an occasion sentence.

The stimulations which fall under neither the assent nor dissent of the stimulus meaning of an *occasion* sentence do so either because of indecisiveness, or by "shocking the subject out of its wits".

Those which fall under neither of a *standing* sentence are the irrelevant ones: querying the subject after such a stimulus will always elicit a verdict, but the same one as before the stimulation. The stimulation changes nothing, i.e. it is irrelevant.

The less susceptible a sentence is to assent and dissent due to changing stimulus, the fewer clues are present in the stimulus meaning. The notion of stimulus meaning is thus more important to occasion sentences than standing sentences.

Quine now introduces the problem of collateral information: Information that was received outside of the modulus of the stimulation and helps in deciding whether to assent or dissent. It thus skews the data that helps us decide a stimulus meaning.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

How do we filter this out? This question is akin to asking how to differentiate between the language acquired and the language in use. There is no evident criterion, feels Quine; and so he deems the question senseless.

For now take a stimulus *a,* which would prompt assent on a query, and a stimulus *b,* which would prompt assent on the query only when conjoined with certain collateral information. Could we not say that the very stimulus meaning of the sentence has changed on acquiring the collateral information, since the stimulus *b* is now sufficient for assent, although it wasn't before? Or do we maintain that the stimulus meaning remains the same?

This is akin to asking if language changes or if language evolves. No answer can be given. The distinction is as illusory as may be the one between the object and what the theory says about the object. *"These dispositions may be conceded to be impure in the sense of including worldly knowledge, but they contain it in a solution which there is no precipitating."*

There can, furthermore, be discrepancies between natives in stimulus meaning. Yet, stimulus meaning is the best we have to go on, and translation can proceed on its basis by continual trial and error, revision, induction and thus overlooking of minor discrepancies-although it is by now evident that this is no easy business.

10. The observationality of a sentence is a measure of the extent to which its stimulus meaning can be affected by collateral information, etc. For e.g. the stimulus meaning of 'Red' has a high degree of it (you need little collateral information to identify the color red), whereas the stimulus meaning of 'Bachelor' has a low degree (you need a lot of collateral information before assenting or dissenting to it, for you need to know if the subject is a bachelor or not). (Thus the stimulus meaning of 'Bachelor' cannot be counted as its meaning.)

"A mark of the intrusion of collateral information was discrepancy in stimulus meaning from speaker to speaker of the same language. In a case like 'Bachelor', therefore, we may expect the discrepancies to be overwhelming; and indeed they are."

"An occasion sentence may be said to be the more observational the more nearly its stimulus meanings for different speakers tend to coincide. Granted, this definition fails to give demerit marks for the effects of generally shared information, but [as argued earlier] suspect that no systematic experimental sense is to be made of a distinction between usage due to meaning and usage due to generally shared collateral information."

Observationality (obviously) increases as the duration of the modulo of stimulus increases.

The higher the degree of observationality, the easier it is to point out stimulus meanings and translate.

Directly "ostensed" statements (such as 'Red') are high on it, while sentences which are multifariously connected with others (such as 'Bachelor') are low on it.

11. Now take the extremely non-observational words 'bachelor' and 'unmarried man'. They have the same stimulus meaning for any one individual. We may then say that they show *stimulus-synonymy.*

Now, if we have a bilingual speaker who knows both the native language and English, then we may say that the word 'Bachelor' and 'Soltero' (the native language word for bachelor) are stimulus-synonymous to him, and proceed with translation thus. But for this, he would have to

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

sit and learn the entire language like an infant-this is the only way translation of non-observational sentences can occur. A rather costly method.

But we need not go bilingual to see if two sentences are stimulus-synonymous for the native. Our linguist can merely keep querying the two sentences in random stimulations until he is convinced they are stimulus-synonymous or until he receives assent in one and dissent for the other. A visiting Martian can dig out stimulus-synonymy between 'Unmarried man' and 'Bachelor'. However, there is no evident reason he would choose equate those two. Quine defers discussion on how to find such pairs to a later section.

Two people are bound to have a great many minute discrepancies between many of their stimulus meanings which the linguist has to account for. However, this cannot happen in the above-described intrasubjective comparison. Overall, Quine feels that kind of comparison is much better than comparison between two subjects.

But now consider this situation: The stimulus is the sentence, *rhymes with 'harried man'*. This will prompt assent for 'Unmarried man' and dissent for 'Bachelor.' Such "second-intention" sentences-sentences *about* sentences-cause a grave problem. Quine sees no easy behavioral criterion to screen such cases.

Additionally, we must limit ourselves to short sentences when equating stimulus meanings: The subject may assent to a short sentence and dissent to the long one simply due to its "opacity", but this does not mean it is not in his affirmative stimulus meaning.

Quine suggest a refinement to overcome the last issue: Suppose there be fixed constructions (constructing sentences). Now, if two different constructions applied to the same components yield mutually synonymous results, we may say that the result of applying these constructions to identical components arbitrarily long will be mutually synonymous. Thus, we can draw the synonymity between a long sentence and a short sentence by analogy.

But there are still more issues with stimulus-synonymity. Stimulus-synonymity can change; two sentences that were previously not synonymous can, on acquiring collateral information, become so.

Quine further gives an example and shows that two sentences may lack stimulus-synonymity even though we may believe they are stimulus-synonymous-that there is a certain stimulation which can make us give contrary answers to sentences we believed to be stimulus-synonymous. Thus, coextensiveness of terms is not a necessary condition for stimulus-synonymity.

Quine suggests that we refine our notion of stimulus-synonymity and deem two sentences to be stimulus-synonymous only if there is a virtual constancy in society of them being stimulus-synonymous for people (perhaps Putnam would have opted for allowing the experts on the matter in the community to determine this); but he concludes by saying that collateral information may still seep in, and that the ideal to keep it all out, as he said before, is illusory.

12. Even sameness of stimulus meaning (in the way we can use it) does not guarantee two terms being coextensive. For suppose now that 'Gavagai' means not 'Rabbit' but the universal of 'Rabbithood' or something similar. The stimulus meanings of the two are the same, but they are not coextensive. We equate 'Gavagai' and 'Rabbit' as synonymous sentences, not synonymous terms.

"The distinction between general and singular terms is independent of stimulus meaning."

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

"Nothing not distinguished in the stimulus meaning itself can be distinguished by pointing"-that is, unless the pointing is followed by further questioning. But this requires a command of the native language far beyond our linguist. The native's locutions are unknown. So are his substitutes for pronouns, etc. They may achieve the same net effects by mechanism incomprehensibly different from ours-what is local in the conceptual scheme is not relevant. The net effects are what need to match up. (Perhaps this is also why it is okay to equate the *sentences* 'Gavagai' and 'Rabbit' but not the *terms* 'Gavagai' and 'Rabbit'. The terms are local, the sentence is global.)

Qualitative identity signifies resemblance, but an object is only numerically identical to itself. It is numerical identity that is relevant to our translation problem. A person can point at the same time to a numerically identical rabbit, and numerically distinct rabbit parts, and produce a sentence, which we can translate to any of the *disparate* English terms 'Rabbit', 'Rabbit part', 'Rabbithood', etc while retaining the stimulus meaning.

This problem can be extended to intrasubjective stimulus synonymy, too. But, since the language English is one familiar to us, it can be solved in that. We merely need to add a condition. If the two terms are F and G, then, if the subject would assent to 'All Fs are Gs and vice-versa' following *any* stimulus provided, we may say F and G signify the same thing. A statement is *stimulus-analytic* if the subject would assent to it (or nothing) after any given stimulus. Thus, 'All Fs are Gs and vice-versa' is stimulus-analytic. But the words 'All', 'Are', etc are somehow settled in advance. Thus, this can be done only with the familiar language English. (That statement is synonymous to saying, "The stimulus meaning of F is the same as the stimulus meaning of G and vice-versa.")

Our simplification of the definition of "synonymy" is applicable to all occasion sentences, but we must not, says Quine, assume it is appropriate to the wider domain. He speaks no more on this matter for now.

Quine now questions why we welcome socializing our concept of stimulus-synonymity, as suggested at the end of the previous section.

It is because we ourselves rate 'Bachelor' and 'Unmarried man' as synonymous and 'Indian nickel' and 'Buffalo nickel' as distinct. Is this because we have some intuitive knowledge of the fact that, under extraordinary circumstances, an expert will assent to one and dissent to the other? Of course not, says Quine. This is because we have knowledge of bachelors by description-'unmarried man'-but our knowledge of the Indian nickel is knowledge by acquaintance ("so central to Russell's philosophy"); moreover, a fusion of 'Indian' and 'nickel', and our knowledge of the buffalo nickel, was attained separately but also by acquaintance. If we detach 'Bachelor' from its description ('Unmarried man'), it loses all utility in communication. However, if we detach Indian nickel from Buffalo nickel, it decidedly does *not.*

Consider a word like 'Momentum', now. If it is found that momentum's mathematical description is *not* mass times velocity, we will revise our theory, but still not consider this a change in the *meaning* of the word. This is because the word 'momentum' is anchored to communication in more ways and with more descriptions than the world 'Bachelor', whose meaning would completely change if it is found that bachelor does *not* mean 'unmarried man' (the word 'bachelor' has pretty much just one description('unmarried man')).

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

13. Up until now, we have attempted to perform radical translation by equating stimulus meanings. Now, Quine offers another path: using truth-functions such as negation, conjunction, alternation, etc. For this purpose, it matters not if the sentence is an occasion sentence or a standing sentence; although the occasion sentences will require a stimulus to be provoked. Suppose there is a sentence to which the native assents. If, by performing a certain modification to that sentence, the new sentence provokes dissent, we can conclude that the modification is their equivalent of negation. If there are two sentences to which the native assents, and they are combined in such a way that the native assents to this sentence as well, then that which combines them is a conjunction.

When we find a native construction fulfilling the criteria of, say, turning a sentence to which one will assent into a sentence from which one will dissent, we can speak no more of it but can merely translate it to 'no'-however, since this does not represent negation exactly and unambiguously, this translation must be subject to "sundry humdrum provisos."

But suppose this mode of translation leads us to the startling discovery that the native assents to p *and* ~p.

We would then be forced to conclude that the native's mode of signifying is perverse, even though this would mean we are imposing our logic upon them. This is easier to accept than the alternative-that the native's intuitive logic accepts contradiction (if we accepted the latter, we would be going by the doctrine of "prelogical mentality"). In English, too, we often respond with 'Yes and no', although we are well bound by the law of contradiction.

One reason to impose our logic is because, after a point, it seems that one interlocutors' silliness is just less likely than bad translation. Additionally: We learn the meaning of these logical particles by their usage alone; that is their description, their anchor. If we find a usage which goes against our supposed belief of their meaning, then they lose all meaning, similar to how the word 'bachelor' would, for their usage is their only anchor in communication.

Tautologies, too, may be similarly translated. (A sentence is tautological if it will be assented to regardless of the truth-value of its components.)

But truth-functions are the simplest of logical functions and logical truths; can we not do better? Let us attempt to do so for universally quantified sentences (*All x are y.*)

Quine gives us a semantic criterion: the affirmative stimulus meaning of the first component is a subclass of the affirmative stimulus meaning of the second component and the negative stimulus meanings are conversely related.

However, take, now, 'Indian nickel' and 'Buffalo nickel'. Their extensions are the same, but their stimulus meanings are not; this means that our semantic criterion makes demands beyond extension.

Furthermore, we have seen that, for e.g. rabbit stages are not rabbits but cannot be distinguished by stimulus meaning.

"The difficulty is fundamental. The categorical depend for their truth on the objects, however external and however inferential of which the component terms are true; and what those objects are is not uniquely determined by stimulus meanings." And so it seems that truth-functions are the only part of logic that we can pin down to behavioral criteria.

And so we conclude that this condition is inadequate for the universal quantifier that we were trying to quantify-but there is still a copula which it can determine: '*x* is a part of *y*;' x is a part of the fusion of y's.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

However, Quine says the correspondence remains poor due to the fact that our semantic criterion makes demands beyond extension.

14. There are two modes of synonymy. In a broader sense, two words are synonymous when they both elicit either assent or dissent in every case. In narrower sense, they are synonymous when their intensions are isomorphic. But this second sense is defined with an appeal to the broader sense of synonymy, anyway, so that is what we shall concentrate on.

    Stimulus meaning does not do standing sentences justice. We may attempt to increase the modulus to enrich the stimulus meanings, but this has its own problems: increasing the modulus to fantastical lengths like a month can end up in the subject revising his theories in unforeseeable ways such that the meaning of words is changed.

    The thing with standing sentences is that stimulation/experience is relevant to them in largely indirect ways, connected to them by other sentences. They are the pinnacle of a theory. There are experiences which can call for changing a certain theory, but we have no indication of which experience will change which theory, where, and how. A certain experience may cause a revision in theory and thus affect multiple sentences, but the sentences affected may well be quite unlike in every respect.

    A way to work around this has been attempted by defining synonymity as such: "S1 and S2 are synonymous if for every S the conditional compound of S and S1 and that of S and S2 are stimulus-synonymous."

    However, this evidently does not provide a tighter relation to S1 and S2 that that of stimulus-synonymy-even if these ventures had succeeded, the synonymity would have been only intralinguistic-although it can be of another language, for we can translate the conjunction and the conditional.

    Intrasubjective stimulus synonymy has been tried to be narrowed down (and made easier to equate two sentences) by introducing to it the notion of analyticity.

    Two sentences are synonymous if their biconditional "If S1 then S2" is analytic. Similarly, two sentences are stimulus-synonymous if their biconditional is stimulus-analytic.

    "As synonymy of sentences is related to analyticity, so stimulus synonymy of sentences is related to stimulus analyticity."

    Here, Quine states his doubts on the possibility of true analyticity and hints at his doctrine of, rather, centrality and degrees of centrality.

    The impossibility of true analyticity obviously does not, however, affect "our strictly vegetarian imitation" of it, stimulus-analyticity.

15. So what do we have at the end of all this analysis?

    Observation sentences can be translated with the normal amount of inductive uncertainty.

    Truth functions can be translated.

    Stimulus analyticity can be recognized. So can stimulus synonymous sentences, but they cannot be translated.

    Our linguist identifies recurrences, deems them words and tentatively translates on the basis of the above points. These are his *analytical hypothesis.*

    (A sentence that is stimulus analytic for the natives need not be stimulus analytic for us. Prelogical mentality marks the extremity of this vein of thought. Quine says that translating a

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

stimulus analytic sentence in native language to a non stimulus-analytic one in our language gives translation the "proper air: that of a bold departure.")

"By bringing out analogies between sentences that have yielded to translation and others they extend the working limits of translation beyond where independent evidence can exist."

If one attempts to go bilingual and learn the language like an infant, and then attempt translation, he would have his notable inside track on non-observational occasion sentences. However, the linguist must have been using the help of analytical hypothesis when learning the language. He also does so when attempting to translate. This ("along with the fugitive nature of introspection") makes the entire matter inextricably muddled up, almost a kind of bootstrapping, and we would be better off just using the method of directly and extensively questioning a native. In fact, the takeaway here is that even two natives may have completely different analytical hypothesis-this will be touched upon in the next section.

Quine now gives us his ace in the hole: There can be multiple incompatible rival analytic hypotheses. There can be statements whose translations are extensions of our core analytic hypothesis which may have multiple English rendering and can give the same net effect in their own respective scheme by slight modifications elsewhere in the hypothesis.

However, Quine says that he cannot offer an actual example of such rival analytic hypothesis, because we know a language through only one interpretation. Constructing another one which results in the same net effect would need skilled linguists working hard, and would be rather pointless with respect to utility. But one only has to reflect on the nature of the possible data and methods to see the indeterminacy.

16. There are several causes of failure to perceive the indeterminacy of translation.

First is the fact that analytical hypothesis have been directly confirmed in the field. They can be defended forever.

A second is confusion of this with the "more superficial reflection" that uniqueness of grammatical systems is not possible. Two analytical hypotheses can have differing grammatical systems –even the net output of the two systems may differ-but the two hypotheses may still give the same net output.

A third cause is confusing what Quine is trying to say with the perceived "platitude" that uniqueness of translation is absurd. What Quine means to say is more radical: That we can have rival systems of translation that are all agreeable with evidence and yet give utterly disparate translations.

"A fourth and major cause of failure" is the stubborn belief that a true bilingual must be able to make uniquely right correlations. This stems from a failure to see that one true bilingual's translation can differ from another true bilingual's.

A fifth cause is the tendency of the linguist to prefer simpler translations that will help limit their choice of analytical hypothesis.

A sixth cause is that a very small core of an analytical hypothesis, if found to be correct, can carry the linguist so far so quickly that he will not look back even once to think about another correct translation.

A seventh cause is practical constraints. He cannot assign any English sentence to any jungle sentence in any way that will agree with his evidence without bothering to qualify recurrences, etc.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

And so we finally come full circle with the ideas in chapter 1: There can be multiple translations that are equally correct and simple, much like parallel conceptual schemes; and a translation can be said to be correct only with respect to its analytical hypothesis, much like the truth of a statement within a theory.

We can observe a hint of this when attempting to translate words which have very little anchor to communication; words whose meaning are determined by their usage; where the line between the object and what the theory says about the object is nearly nonexistent-for our translation then depends on our theory, because they lack "linguistically neutral meaning".

This, says Quine, is what Wittgenstein means when he says, "Understanding a sentence means understanding a language."

It has often been said that deep differences of language imply ultimate differences in the way one thinks and looks at the world. Quine suggests, rather, that this has more to do with an indeterminacy of correlation. "There is less basis of comparison the farther we get away from sentences with visibly direct conditioning to non-verbal stimuli and the farther we get off home ground."

Furthermore, this is not limited to foreign languages. Generally, when conversing with another person in our native language, we use the simplest homophonic translation, but it is plausible that we ingeniously constructed a consistent hypothesis attributing a compatriot of ours with ridiculous beliefs.

All this implies is that we ourselves could have such beliefs and not go against our empirical knowledge. Thus, the degree of uncertainty our empirical date wields to our conceptual scheme is the same as the degree of uncertainty dispositions of a native wield to our translation.

One may argue that if two theories agree "in point of all possible sensory determinants", they are not two but just one; there is no difference between the two, they are the same.

They are indeed empirically equivalent, but one cannot simply brush aside the indeterminacy on this basis. "That it requires notice is plainly illustrated by the almost universal belief that the objective references of terms in radically different languages can be objectively compared."

Quine's conclusive closing remarks are on the parallels in other fields of similar net effects but disparate parts: "In mentalistic philosophy there is the familiar predicament of private worlds. In speculative neurology there is the circumstance that different neural hookups can account for identical verbal behavior. In language learning there is the multiplicity of individual histories capable of issuing in identical verbal behavior."

"It is ironic that the interlinguistic case is less noticed, for it is just here that the semantic indeterminacy makes clear empirical sense."

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Chapter 3

17. And so the exact object a word refers to is bound up not only with its stimulus meaning but also with "a provincial apparatus of articles, copulas, and plurals that is untranslatable into foreign languages save in traditional or arbitrary ways undetermined by speech dispositions."
Operant behavior refers to behavior that is *emitted* (without direct stimulus) rather than *elicited* (by direct stimulus). When this behavior happens to perchance occur at a moment at which it is, in fact, called for by the stimulus, it is rewarded and thus reinforced. This is how infants learn the stimulus meanings of words.
Now take the word 'Mama'. Perhaps when this operant behavior was emitted and rewarded, the present stimuli were: a breeze, the infant's mother's face and, of course, the sound 'Mama'. Saying 'Mama' to breezes will quickly die down due to lack of rewards. However, saying 'Mama' on hearing that sound will continue to be rewarded, for people will applaud the child's mimicry; however, reward for direct mimicry, too, dies down as one grows older. But this shows that mimicry's beginnings are the same as those of the beginnings of word learning; and during this mimicry the lines between the use of the word and the mention of the word obviously blurs.
An infant may also learn the stimulus meaning of a word (inductively) by observing its correct usage. Teaching a new word to an infant by suggestion by using it correctly in front of him would be a limited business at first. However, the child will soon become amenable to learning new words in this way. An utterance from someone else becomes a direct stimulus for a duplicate. Once this happens, he will instantly start learning when he hears a new utterance; and around the same time, his behavior will become more elicited than emitted, and he begins learning the language in earnest.
This description may not describe every aspect of world-learning for e.g. 'Mama' may also issue, "as is often said, from anticipatory feeding movements", but this does not oppose the given scheme in any significant way.
Just because the infant uses the word 'Mama' currently does not necessarily mean that he has attained the concept of mother. He is just responding similarly to similar stimulus. Thus, the infant sees more resemblance between some stimulations than between others. We may estimate the distance between two stimulations in the infant's quality space.
The finest distinction a child can make may be called just-noticeable differences. But by indirect reasoning we can get still finer distinctions: if a child discriminates between A and C but cannot discriminate either from B, this means that B is neither A nor C, for B cannot be both A and C, for the child can discriminate between them. So we can then place A, B and C as different in the child's quality space.
It is possible that the very tests we perform to know a child's quality space is affecting the quality space. Therefore, we should find some uniformity of quality spaces from child to child. Of course, there will be a different quality space for each sense; and the procedure for knowing the net distance between two objects consisting of all the senses will be greatly complex.
What is unique to a child is the distance in quality space between two stimulations. The stimulations themselves exist in all children's quality space.
We cannot, however, infer anything about the child's immediate experiences by our probing and knowledge of his quality space. Reference to (the child's, in this case) immediate experience is, says Quine, at its best here: "as an intermediate theoretical chapter within a going theory of

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

physical objects, human and otherwise." This gels perfectly with the views presented in Chapter 1.

18. Stimulations eliciting a response are not a class but a distribution about a central norm. (See **8:** Construing the affirmative and negative stimulus meaning as a universal.)
Similarly, the responses that are required to receive a reward are a distribution around a central response. Each norm determines the other: for e.g. the red and green norms are defined with a dependency on their contrast.
But one interesting difference between the phonetic norm and, say, the chromatic norm is that a color that is significantly off center of every color norm is still a color that everyone will try to match; but a word that is significantly off center of every phonetic norm is just poor communication or gibberish. And so let us dwell on it some more.
We deal with ambiguity of a person's speaking with respect to phonetic norms in three ways: We devise a language in which the distance between the phonetic norms of two words is very large; We enunciate carefully; We use pleonasm [the use of more words than are necessary to convey meaning]. (Indeed, completely disregarding a word which is not completely on the center or norm is hilariously impractical. In any case, we cannot really identify the center, since the miss could be arbitrarily small, and our quality space will not be so precise.) Additionally, we may guess the word by seeing the context. The sounds midway between two norms occurs least frequently since there are least safeguards against ambiguity there.
Quine now postulates having a consciously continuous symbolism in which, say, humming corresponds to communication, and degrees of shrillness of humming corresponds to the degrees of a certain hue, the loudness its brightness, etc.
But this, too, has its problems, as Quine shows. There will be an approximate point at which one family of hues changes to another and this point will be shunned due to its ambiguity, much like a midpoint between norms. Eventually, like this, the society will end up settling on central norms. Eventually, the humming will become warped enough to resemble the alphabet. This would be the birth of verbal communication resembling ours.
Additionally, when relaying a message from person to person in a continuous symbolism, the mistakes would only accumulate, thus rendering the message eventually unrecognizable. In our language, however, the inaccuracy by the previous person is corrected by the current person and the message is transferred with only the current person's inaccuracy, which in turn will be erased. Moreover, a person can only remember what hues correspond to what pitch by marking it around a central norm. (Memory is a relay from self to self.) Norms are thus indispensable.
It also makes learning easier.
"The norms of the phonetic syllables of an utterance are the phonetic syllables of the norm of the utterance. "
This law is used extensively in learning. When a child learns 'Mama', he also has a head start on 'Marble' as a consequence. This is slightly inaccurate-'Marble' will not be pronounced perfectly so along the norm because its pronunciation will be affected by the sounds produced before and after it. The shortcut remains, however.
The phonetic syllables of a language are just short enough so that their number is down and still longer enough to represent every longer norm as a string of them. Each phonetic syllable is the norm.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

19. Quine introduces the distinction between singular terms and general terms. (Their importance and function is analogous to classes and instances.)

The dichotomy is "inconveniently similar in nomenclature to the grammatical one between singular and plural," but less superficial.

Singular terms are defined as expressions that purport to denote or designate particular individual people, places, or other objects, whereas general terms are true of more than one thing.

Note that the contrast lies in the term and not the stuff they name. (Water is scattered throughout the world but is still a singular term. They do not, however, name a unique object. Similarly, 'apple' may be both a singular term and a general term depending on the context.)

When we refer to an item by a general term, we are dividing the reference of that general term to that item. (Learning how much counts as *an* apple.)

Singular terms are learnt first; the concept of enduring physical objects, identical from time to time and place to place, is learnt later. We are tempted to say that he has got the hang of divided reference when he refers to a multitude of apples as 'Apples', but this could merely mean he learn 'apples' as a separate singular term referring to apple heaps. 'Apple' is to 'apples' much like how 'warm water' is to 'water'. They could be mutually exclusive, or 'apples' could be a subordinate to 'apple'. Only when he begins referring by the phrases 'an apple', 'the apple', and etc. can we say that he really has got the hang of general terms and divided reference. The child doubtless learns words such as 'some', 'as', etc. contextually, and this goes on simultaneously so that generality of terms and the usage of these with relation to general terms start fitting like pieces in a jigsaw puzzle and a coherent pattern of usage is constructed by their conjunction.

The fact that these matters are not reflected in stimulus meaning is noteworthy. This is why the child can gain knowledge on them only by the method of simultaneous learning and conjoining the antecedents ("some", "another", etc.) and the terms ("apple", etc.), and this is why linguist has to use an analytical hypothesis and other indirect means to gain knowledge on them.

"Once the child has mastered the divided reference of general terms, he has mastered the scheme of enduring and recurring physical objects."

"To what extent the child may be said to have grasped identity of physical objects (and not just similarity of stimulation) ahead of divided reference, one can scarcely say without becoming clearer on criteria." (Which is to say, without becoming clearer on what identity is.)

20. "The difference between being true of many objects and being true of just one is not what matters to the distinction between general and singular." It is that singular terms *purport* to refer to only one object, while general terms *purport* to refer to multiple ones.

A term may be general even if it is true only of one object.

"It is by grammatical role that general and singular terms are properly to be distinguished." The basic combination in which they find their contrast is given to us by predication: '*a* is an *F*.'

"Predication joins a general term and a singular term to form a sentence that is true or false according as the general term is true or false of the object, if any, to which the singular term refers." (For e.g. *Mama is a woman.*)

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Singular terms and general terms are important to us because of the role they play in reference, unlike adjectives, verbs, etc, which are merely contrasts in grammatical role. Nouns, adjectives and verbs can be seen as variant forms given to a general term.

Often, the line between adjectives and nouns blurs. We even say 'Add a little more red' and allow an adjective to double as a mass substantive. This does not always happen, although "in general a faithful substantival rendering of a term, if not the briefest, can be got from the adjective by appending 'thing' or 'stuff'."

"A mass term in a predicative position may be viewed as a general term which is true of each portion of the [singular term] in question, excluding only the parts too small to count." (For e.g. 'water' as a general term will be true down to single molecules but not atoms; 'furniture', down to single chairs but not legs and spindles.)

"Even the tightest object, short of an elementary particle, has a scattered substructure when the physical facts are in." (A baby does not, of course, see scattered substructures, only occasion sentences and singular terms. Awareness of scattered substructures occur with sophistication and knowledge.) We may use the word 'water' as a singular term referring to a scattered totality without going into sophisticated physical facts at all, though (so we do not force any conceptual scheme upon the speaker); it need just be similar enough to singular terms referring to a unique object integrated into a cohesive spatiotemporal convexity, such as 'Mama.'

One may try to convert general terms that are after the copula into singular terms by adding the phrase 'is a part of', but this fails because there may be a part of the term too small to count as the singular term (for e.g. the atoms of water), and this size restriction is not constant for all general terms. (These problems do not occur before the copula.)

One last interesting turn to indicate how much further the protean [versatile] character of terms goes: In the phrase, 'The brown part is lamb', the word 'lamb' is a singular term referring to a general term. Further examples of this sort are given. The distinctions in function are poorly reflected in words in statements of this sort, but "we need not hesitate to draw distinctions, where they clarify our concerns, though they have no vivid reflections in English idiom."

"Nor to waive distinctions indifferent to our concerns though English idioms exalt them," adds Quine.

21. Words like 'This' and 'That' which can be used to turn a general term to a singular term are demonstratives. These words are flexible in that they could be used to refer to different objects in different contexts, and just as the ambiguities become too much do we add a proper name to "carry the reference for good."

They preserve the mechanism of ostension (association of direct experience with the object of reference) and at the same time also bypass the training previously described which requires operant behavior because a person can simply point to the stimulus and say 'This is mama'. But for this, general terms must be learnt by the elaborate route. Demonstratives are also useful in teaching general terms from singular terms: *This* apple and *that* apple; when to identify and when to distinguish.

When the context is very strong, even degenerate demonstratives such as 'the' or words like 'he' and 'she' suffice. "Such a pronoun may be seen thus as a short singular description, while its grammatical antecedent is another singular term referring to the same object (if any) at a time when more particulars are needed for its identification." (Although the phrase "singular

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

description" becomes more apt for it when the term referred to is actually a composite term, for e.g. "red house/it" as opposed to "Quine/him".)

A method of forming composite terms is by attributives. This method is not "presupposed in what it presupposes; the child can learn it serenely after his scrambling is done."

It is the joining of adjectives to nouns in *attributive position.* The attributive position is before the noun for e.g. 'red house,' and the attribute does not come in the predicative position for e.g. 'That house is red.'

Nouns are rarely used as attributives (for e.g. lady cop); similarly, adjectives are rarely used as something other than attributives (for e.g. mere child). (Such adjectives are neither subject nor predicate and are meaningful only in conjunction with a denotative expression. They may be called *syncategorematic:* they don't mark out a category of objects in their own right; they make sense only with another term.)

An adjective can be used as both a general term and a singular term, depending on where it is used. It is a general term in predicative position; it is a general term in attributive use next to a general term (for the composite term is true of the things of which the two components are jointly true); it is a singular term in attributive position next to a mass term. The two components act as singular terms naming two scattered portions of the world, and the compound is a singular term naming that scattered portion of the world which is the overlap of the two. However, in sentences like 'The puddle is red wine,' they would both be general terms. The general terms 'Red houses' and 'red apples' have the attribute only very superficially, being red only outside. This goes to show that the distinction between singular terms and general terms is "no mere pedantic distinction between modes of reference," and even the concerned regions of the world can diverge-which is to say that while two instances are constant, the classes to which the two general terms belong-'red houses' and 'red apples'-may diverge by an arbitrarily high amount from the similarity of redness. Yet the usage of the adjective in these two diverging words are descendents of the same original one which alone is accessible the child who must initially use the word as a singular term. Only later may he know how superficially houses and apples are red.

"Closely related to the attributive joining of terms is the joining of terms by 'and' or 'or'."

22. So far we have been talking about absolute general terms. There are also *relative* terms such as 'bigger than', 'is a part of', etc. While an absolute general term is simply true of an object of type *x*, a relative term is true of type *x* with respect to some other object. There may also be triadic, tetradic etc. relative terms.

We can pair two relative terms together as mutual converses for e.g. 'parent of' and 'offspring of'.

The key word of a relative term is also used *derelativized* sometimes, "as an absolute term to this effect" (for e.g. simply 'parent'): Someone is a parent only of there is someone of whom he/she is a parent.

Relative terms may also combine with singular terms to give composite general terms for e.g. 'brother of Abel.'

We may combine this compounding operation with the compounding operation related to attributives and get more complex general terms.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

"To composite singular terms, conversely, we can apply relative terms to get further general terms," for e.g. 'the red wine of Abel.'

"Singular description makes a notable stride as a result of this access to composite general terms" even without the help of a context. For e.g. the composite general term 'author of Waverly' becomes a singular term when 'the' is added before it. However, most singular descriptions continue to depend upon context.

Syncategorematic adjectives and adverbs have not been given attention because they are simply not terms. They are words for attaching to terms.

Similar to applying relative terms to singular terms, they may also be applied to general terms to get another general term for e.g. 'benefactor of refugees.'

"The forming of composite general terms by applying relative terms thus to further terms, singular or general, brings a new kind of referential power." [See: The importance of the quantifier; "On What There Is".]

Our four phases of reference so far have been:

1. Learning reference via operant behavior and ostension. These introduce new objects in our language.
2. Division of reference, demonstrative singular terms and singular description. These introduce new names in our language, but no new objects. There is little scope for failure of reference here.
3. Compounding general terms via attributes. These do not introduce new objects as it is the same old known terms compounded; they refer to just the overlap of two or more of them. Here we see clearcut cases of failure of reference ('square apple', 'flying horse' etc.).
4. Relative terms. These introduce new objects, thus increasing our ability of reference-they may purport to refer to things which we couldn't point at and give individual names if they came our way- and give us the power of analogy. They also "afford admirably flexible means of formulating conditions for objects to fulfill". It is the first in the series of constructions taken up thus far to widen our referential horizons without introducing new terms. (Quine adds that there are more grammatical constructions which do the same: Relative clauses, indefinite singular terms, abstract objects.)

23. The notion of 'relative clause' is now introduced.

A relative clause is usually an absolute term of the form of a sentence, except the singular term is replaced by a pronoun and the order of the words may be switched for e.g. 'which I bought'. (The relative pronoun may often be redundant for e.g. 'loves Mabel/who loves Mabel' but is required for grammatical correctness if the phrase is part of a larger sentence.)

Relative clauses seem to me to be eerily reminiscent to quantifiers. This is their importance to reference. Since they come after relative terms, which introduce new objects, what relative clauses do is separate the object and its description as much as is possible.

A more unlyrical but practical way (bringing the relative pronoun out to the start can be hard) of construing a relative clause is by using 'such that' instead of 'which': This phrase divides the two responsibilities of which (for e.g. 'such that I bought it'): It signals the beginning of the clause and defers the responsibility of being the pronoun to 'it' ('which' does both jobs).

Earlier, mastering general terms and divided reference was no mean task: We had to rely on attributes, demonstratives, slow and convoluted experiences, derelativization of relative terms,

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

etc. The relative clause, however, encompasses all of these. (Quine says that this is nowhere near obvious and cites another linguist's work for a formal proof of that fact.)

Much discourse depends upon indefinite singular terms-for e.g. 'I saw a lion'.

"It is with the advent of indefinite singular terms that we find pure affirmations of existence."

'I saw a lion' is true even if there is only one object satisfying the conditions of being a lion, but plain false if there do not exist any lions; its negation is true. Statements containing definite singular terms depend on the existence of the particular object being named to be true, but in general, if that object was not present, they are consider neither true nor false but simply uncalled for, for e.g. If a person says 'I saw the lion' when in the middle of an ocean. (This is because the sentence's negation is not necessarily true. The speaker may merely be referring to another lion seen at another time. Thus, uncalled for.)

"'He', 'she', and 'it' are definite singular terms on a par with 'that lion' and 'the lion'."

However, when they are used in connection with 'such that', they can be applicable with both definite and indefinite antecedents for e.g. 'the car such that I bought it from you' *and* 'a car such that I bought it from you'.

There are other particles used in forming indefinite singular terms but which differ in the truth condition for sentences that contain it, and the way they differ is, says Quine, curiously erratic. (For e.g. 'every', 'some', 'each', etc.)

24. Identity is a relative term depicted in English by the use of 'is'.

Identity is, of course, intimately bound up with the division of reference. It purports to say that a term is true of more than one object. Division of reference also settles conditions of identity: how far you have the same apple and when you are getting into another. Only when the child has mastered talk of identity can he be said to know about general terms.

Identities are only true if "both terms were conditioned to the same range of stimulations." The earliest phase of identity reference, with 'This' on one side and the object of reference on the other, is not very informative. However, when we have two objects learned by ostension on the two sides, it is informative; even more so when one term is complex.

But though the notion of identity is so simple, confusion over it is very common. There is the age-old problem of how you cannot step into the same river twice due to the flowing of water. But we need only look at the principle of divided reference governing the reference of the word 'river' to see that we can rightfully say that we can step into the same river twice.

Hume feels that identity is that which an object has in common with itself, and thus fails to see what is relational about it, for it is the same as the mere attribute of existing. But what makes identity relative is that it equates to distinct *occurrences* of two objects, same or distinct, and not two distinct *objects*. It signifies what is common between these two occurrences. Whitehead once said that 3+2 is not equal to 2+3 because their orders are different and the mental processes that occur when viewing them are thus different. It seems pretty evident to me that he is mixing up two different contexts. Of course they cannot be identical from an overall point of view; an object is only identical with itself. However, from a limited mathematical point of view, they are, indeed, identical, for mathematics is not bothered with psychological processes-but now, say, from a psychological point of view they are not identical. (Note that this is my own idea, and I feel it encompasses what Quine himself says about confusing the sign with the object.)

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Statements of identity are true if they equate unlike singular terms referring to the same object in context.

"The device of identity combines with that of indefinite singular terms to produce the equivalents of a wealth of familiar and useful idioms." They give us terms similar to and of the form 'other than y' and these help us analyze and reduce the grammatical plural.

Previously, we considered 'is an' to be one connecting unit; we can now reanalyze it to a composite of 'is' and 'an'.

Quine says that the 'is a' in 'Agnes is a lamb' can be construed as an '=', but the 'is' in 'Agnes bleats' cannot, and must be viewed upon instead as a particle converting adjectives to verbs. My point of view differs. There is, according to me, a certain common element between 'Agnes' and 'bleats' which the word 'is' signifies, and it can thusly be replaced with '='.

25. A dramatic new phrase in learning is the advent of abstract singular terms such as 'roundness.' The distinction between 'roundness' and 'round' is that while 'round' would be more wont to play the role of F in Fa [a is F], 'roundness' and the like are more suited to the role of 'a'.

The general term which plays the role of 'F' in a sentence in which an abstract singular term is an *'a'* must be one predicable by abstract terms (so, the general term is an abstract general term): for e.g. 'roundness is rare.' "The move that ushers in abstract singular terms has to be one that simultaneously ushers in abstract general ones."

(Remember, the distinction between singular terms and general terms was based on predication.)

Parsing [resolving into components] of words does not simply depend on parsing their combinations as predications in certain ways. There are a lot of other grammatical factors and predication is "but part of a pattern of interlocking uses." "There is also the use of singular terms as antecedents of 'it', and the use of general terms after articles and under pluralization." Often, we are left with no evident way to recognize a word for what it is.

"I deplore that facile line of thought according to which we may freely use abstract terms, in all the ways terms are used, without thereby acknowledging the existence of any abstract objects." Quine briefly touches upon the notion of ontological commitment (if an object is indispensable to our conceptual scheme, we must concede it to be part of our ontology) but defers further discussion on this to chapter 7.

Quine feels the need to devote a bit of special attention to the mechanism by which we develop abstract singular terms even though it develops hand in hand with abstract general terms, for it is them who come first.

We learn the singular term 'mama' as an integrated spatiotemporal object but the word 'water' as a scattered mass. It thus already has the hybrid air of an abstract singular term-the air of generality and yet singularity in form and function.

'Water' may be said to refer to either a shared *attribute* of pools, etc. or a scattered totality of the world. The latter we may postpone by the eventuality of abstract singular objects, but the child is surely equally unversed with scattered totalities. Quine thus declares this distinction irrelevant to both infant speech and stimulus meaning.

Further learning comes via words like 'red' which functions as both an attribute and as a scattered totality (initially, when the child equates 'red' with 'apple').

"Each general term delivers an abstract singular."

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Abstract terms come in handy in cases of cross-reference. However, we need not posit a shared attribute in these cases, but we can develop any arbitrary attribute for any given sentence/s. (Doing away with universals is spoken upon by Quine in his paper, *On What There Is.*) (The more elaborate the phrase, the greater the saving achieved by the cross-reference; we need not repeat the two phrases but merely say that *x* attribute is shared by the two objects.)

Attempts to discard attributes will end in failure. We may attempt to reconstrue 'Humility is rare' as saying that 'A humble person is a rare person'; no attributes. However, it does not mean to say that each humble person is rare; rather, it purports to say something about the *class* of humble persons, and if we allow for the class of humble persons, we must also be committed to the universal of humility, for attribute and class need not be distinguished between except on one technical point which will be addressed in #43. (Similarly, 'Humble persons are virtuous' has only the appearance of concreteness.)

 "Once we start admitting abstract objects, there is no end." Quine again defers further discussion to chapter 7.

The disreputability of the origins of abstract objects is no argument against their ontological existence, but Quine here hints at his preference for deserted, barren landscape-type ontology. "Clarity is more fruitful on the average than confusion." However, he adds that they may not be dismissed until we have tools that may replace them. Abstract objects are epistemologically relevant.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Chapter 4

26. In the previous chapter, we mused on how one learns language and reference. Now, we shall consider the irregularities of reference and indeterminacies that pervade it. (This is not a call for language reform; we manage fine with what we have. This is to call to attention the referential business of our language.)

    "Vagueness is a natural consequence of the basic mechanism of word learning."

    "The penumbral objects of a vague term are the objects whose similarity to ones for which the verbal response has been rewarded is relatively slight." The learning process is, says Quine, implicit induction from societal usage-and induction is most inconclusive for these fringe cases.

    "A singular term naming a physical object can be vague in point of the boundaries of that object in space-time, while a general term can be vague in point of the marginal hangers-on of its extension" (too).

    We can attempt to resolve vagueness by relativizing terms-say, if green is the term in question, by saying '*x* is greener than *y*,' and although even this will retain some vagueness-for it compares deviations from an unspecified central norm-it is greatly reduced.

    Vagueness has its advantages. "A painter with a limited palette can achieve more precise representations by thinning and combining his colors than a mosaic worker can achieve with his limited variety of tiles." It also acts as an aid in discourse. For e.g. if I need to explain a concept A for which I need to explain a concept B, and if I need to explain concept A in the first place to explain concept B, I can vaguely explain concept B and build concept A on that, then coming back to concept B and clearing it up to create a sort of bootstrapping.

    When the truth-value of important statements rests on a rather vague term, the linguistic community is compelled to make the waters less murky and make borders more specific. "We may prudently let vagueness persist until such pressure arises, since meanwhile we are in an inferior position for judging which reforms might make for the most useful conceptual scheme."

27. Ambiguous terms are at once clearly true of various objects. What makes them ambiguous is that there may refer to different objects in different cases, depending on context. In some cases, the context does not help and the ambiguous word "infects" the entire statement.

    "Communication fails and a paraphrase is in order."

    Coming to homonyms, now: When is it one ambiguous term and when two disparate homonyms? Perhaps they are disparate when their etymology is disparate. But often we equate two words of disparate etymology when we can find no other analogy between them, for e.g. while translating. "Grammarians will maintain a neat exclusiveness of grammatical word classes at the cost of multiplying homonyms." This only transfers the problem to lexical [vocabulary] identity. Quine says that we may keep matters straight by calling words that look and/or sound alike identical and supplementing other terminology when required.

    Names are singular terms with wide ambiguity.

    How much of a general term's multiple applicability is ambiguity and how much of it is generality?

    "We may reasonably call a word ambiguous (and not merely general) if it has been conditioned to two very unlike classes of stimulations, each a close-knit class of mutually similar stimulations."

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

In a similar vein: Many philosophers say that there is such a difference (of ambiguity in a term- the term being 'true' in this case) between saying a logical law is true and a weather prediction is true. Quine says that the stoutness with which they maintain this baffles him, for they have nothing that can count as evidence. He feels that we should just recognize the difference between the statements merely as a difference between logical laws and weather predictions and nothing more.

A striking thing about an ambiguous term is that depending on the context and interpretative clues we get from it, it can be clearly true and clearly false of the same thing from utterance to utterance. This trait, "if not necessary" (as a condition for a term to be ambiguous), is the nearest we have to a clear condition for an ambiguous term. However, to consider shifts of truth-value to be ambiguous is not ambiguity in the true sense of the word, for ambiguity is indecisiveness between meanings. "Our reflections in chapter 2 encourage us little of distinctions of this kind."

Ambiguity can manifest itself in strange ways in composite terms, such as between the truly attributive and syncategorematic use of adjectives, for e.g. "Intellectual dwarf".

Note that the ambiguous "term" is the compound and not just the adjective (an adjective in syncategorematic use is not used as a term). Thusly we speak of ambiguity in a wider context than just a certain word/single term, for e.g. indefinite singular terms.

A prominent potential ambiguity of this sort is: "White man" as being white compared to other men or just being white. Quine says there is actually no threat of ambiguity here between the attributive and the syncategorematic because no men are white things.

Quine says that the ambiguity of the indefinite singular term 'nothing' has especially invited confusion, for people mistake it to be a definite singular term, whereas it is actually an indefinite one, something which becomes evident by its multiplicity of use, much like 'some' and 'each'.

28. Ambiguity applies to particles (for e.g. 'or' with its inclusive and exclusive senses) and even syntactical elements. "The attributive position might be said to be syntactically ambiguous as between the truly attributive use and the syncategorematic." Another example is the plural form of a general term-for e.g. in 'Lions like red meat,' the term refers to *every* lion; in 'I hear lions,' the term refers to *some* lions; in 'Lions are disappearing,' the terms refers to the *extension* of the general term-the *class* of lions. Additionally, the plural also plays a special *dispositional* role which adds to the ambiguity: 'He eats lions' is not

But these are only partially syntactical: they are ambiguities in a certain structure. Ambiguities of syntax in a fuller sense are "ambiguities as to what is syntactically connected to what".

Ambiguities of pronominal reference may be sometimes avoided by replacing the troublesome pronoun with its grammatical antecedent. However, this cannot always be done: For e.g. with indefinite singular terms, it cannot, because pronouns are definite. For example, "Everything has a part smaller than it."

But we can dissolve such ambiguities by replacing the terms with free variables, quantify them if need be, and essentially rephrase the sentence in the symbolism of logic, such as: "Everything *x* has a part smaller than *x*."

This is still not perfect syntax, though.

If the antecedent is a relative pronoun, this will not work, leading to simple nonsense, such as from "Which objects have a part smaller than it" to "Which *x* has a part smaller than *x*."

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

However, we may yet consider that statement attributive to a term and replace the relative pronoun with the definite term for e.g. "An integer *x* such that *x* has a part smaller than *x*." Quine gives further illustrations of rephrasing sentences to enable them to be written in logical symbolism.

Reference is the relation of a sign to an object. Cross-reference is not true reference but only a relation of a sign to another coordinate sign; logicians speak here of binding. The appositive occurrences of the sign is said to bind its various recurrences. Sentences with unbound variables are neither true nor false.

Another kind of syntactical ambiguity is ambiguity of grouping: Interpreting 'pretty little girls' camp' '(pretty)(little girls') camp)' or '(pretty little girls')(camp)' etc. "A graphic means of marking grouping in mathematics is parentheses, as above."

29. Another kind of ambiguity is ambiguity of scope. For e.g. when we say 'big European butterflies,' do we refer to the set of all European butterflies that are big, or the set of all butterflies that are big for European butterflies? The question reduces to "whether the scope of the syncategorematic adjective 'big' is 'European' or 'European butterflies'."

Note that when adjectives are used categorematically (in the truly attributive way) for e.g. 'round black box' the scope of the two interpretations is the same.

Quine highlights the distinction and difference of scope between 'All', 'Every', 'Each'.

'Such that' clauses occur in predicative position but generally seem rather superfluous; however, they are useful in making scopes explicit, unlike 'Which' clauses in predicative position.

30. As we have seen, singular terms may shift in reference due to ambiguity (or due to the "peculiar functions of 'the', 'this', etc.).

A position is 'purely referential' if the statement it is in remains true if we substitute the singular term in that position with another singular term designating the same object. For e.g. 'Tully' in '"Tully was a Roman" is trochaic' is not purely referential, since the statement becomes false if we replace it with a word 'Cicero' designating the same object.

Singular terms under predication must be in purely referential position.

Apart from applying pure referentiality to singular terms relative to sentences, we can also apply the concept to positions of singular terms relative to singular terms that contain them. For example, any phrase inside quotation marks produces a singular term within which there may be yet another singular term.

In "'Tully was a Roman' is trochaic", if we replace the entire phrase with something that is equivalent ('Cicero was a Roman' is not), then we can consider *that* particular singular term to be in a purely referential position, unlike 'Tully'.

Quotation may be said to be a construction that fails of referential transparency. [Use/Mention.] However, another construction, spelling, when used in the aforementioned statement, will make it referential. (Rewriting the statement in terms of its syllables.) Any truth function (for e.g. 'or') is evidently referentially transparent.

"A construction that may be transparent or opaque is the belief construction."

"Tom believes that Cicero denounced Catiline." But suppose now that Tom does not know Cicero=Tully and believes Tully did not denounce Catiline. Now we may either construe this such

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

that substituting Tully will change the truth value of the statement, or such that Tom is ill-informed and actually does believe Tully denounced Catiline even if he does not know it ("despite his own misguided verbal disclaimer").

A term is not barred forever from referential position just because it occurs in an opaque construction. For e.g. 'Tully' in "'Tully' refers to a Roman" is clearly referential. In such cases, 'non-transparent' would be more accurate than 'opaque,' but "it is rather a fine point."

31. Paradoxically, "Indefinite singular terms need referential position because they do not refer," since replacing them with any term designating an object would not change the truth-value of the statement, for it does not refer to any object.

   In the statement "Tom believes that someone denounced Catiline" can be construed as transparently or opaquely, for "Tom believes" is antecedent to the assertion that such a person exists, and so such a person may not exist, whereas in "Someone is such that Tom believes that he denounced Catiline", the assertion that such a person does exist is antecedent, and so such a person *must* exist, and so belief has to be transparent.

   It follows from the transparency of indefinite singular terms that there cannot be cross-reference from an opaque construction to an indefinite singular term outside it.

   The price of construing statements such as the above one as transparent is that Tom may end up believing that Tully did and Tully did not denounce Catiline (Quine, however, makes a distinction between this and between believing that Tully did and did not denounce Catiline.) However, there are bigger problems with maintaining transparency. Using an argument analogous to the one in logic showing that if p and ~p are part of a system, then every proposition is a theorem, Quine shows that if Tom believes that Tully did and Tully did not denounce Catiline, Tom ends up believing *everything*. In declaring belief invariably transparent for the sake of the second sentence, we let in too much.

   So what we need is not a way of making everything transparent or everything opaque but a way of indicating when a sentence should be taken as transparent and when it should be taken as opaque. Quine suggests that one way of localizing and making a distinction is by writing "Tom believes Cicero to have denounced Catiline" when we want to make, say, Cicero transparent, and "Tom believes that Cicero has denounced Catiline" when we want to make it opaque. Such situations so near to blatant contradictions occur only when the statement is somehow related to what Russell calls a "*propositional attitude*," such as 'wishes', 'fears,' etc.

   The three types of failure of reference that occurs is failure by replacement of a codesignative term, of a coextensive term or replacing a component of the sentence by a sentence of the same truth value. These are called failures of extensionality. Quine does not attempt to make any distinctions, saying only that Frege stressed on all three because he considered them distinct, and that failure by codesignative obviously received priority because "one rightly expects substitutivity of identity" and not of full extensionality.

32. Quine elaborates on rephrasing non-referential sentences into clearly opaque ones by giving examples. "Our paraphrases have been cumbersome at best; but the most cumbersome ones are the ones least needed."

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Chapter 5

33. We have made departures from ordinary linguistic behavior to aid us in understanding the referential work of language. Often, when such departures become convenient in everyday communication, they become part of ordinary language. ("And herein lies one factor in the evolution of language.")

Notation in modern logic stems from attempts at simplification of language. We cannot, of course, "burden a logical theory with quirtks of usage that we can straighten." We first transform sentences of ordinary language to a "canonical form". Otherwise, conversion will produce very artificial and cumbersome statements, although "all the vocabulary and constituent grammatical constructions will be ordinary."

Paraphrasing to logical symbols is much like paraphrasing to avoid ambiguity, although our motive is application of logical theory, while the motive of the latter is communication. Paraphrasing from logical notation to ordinary language and vice-versa cannot done on the basis of *our* judgment of synonymity; we have already seen that that notion is an ambiguous one for an outsider. We can only let the speaker in the paradigmatic situation decide firsthand if the paraphrasing is acceptable and delivers the same sense.

"On the whole the canonical systems of logical notation are best seen not as complete notations for discourse on special subjects, but as partial notations for discourse on all subjects." In a single alphabetical symbol of logic may be embedded an arbitrarily high number of components in terms of ordinary language. Therefore, we may have a maxim of shallow analysis: Expose no more of the logical structure than seems useful in context. Simplicity of language is analogous to simplicity of theory; the conceptual schemata of language is analogous to that of science. "Nor let it be retorted" that language is convention, for the same could be said of a scientific theory. True, some theories explicate better than others-but it is also true that some languages communicate better than others.

34. In order to simplify it, Quine now begins regimenting our language.

The first targets are the indefinite singular terms: Quine gets rid of them, first restraining them all to subject position by rephrasement and then reducing them all to "something" and "everything". [There exists something such that/For all objects such that.] The existential and universal quantifiers.

(We do not need a distinction between 'any', 'each' or 'every' by resorting to recourse using such that, as had been shown in section 29. Furthermore, 'no poem,' 'nobody,' 'nothing' etc can be paraphrased by means of 'each' and negation.)

There is a way to reduce existential quantifiers, too. We can get rid of 'There exists an *x* such that': "Not all objects are ~x such that x is…." But Quine calls this of little moment.

Something apart from indefinite singular terms that were built on general terms are singular demonstrative terms. We can assimilate those to singular descriptions, treating the demonstrative as a description.

Other singular terms built on general terms are the class-name, the attribute-name and the relation-name ('nextness', 'superiority' etc..)

We may rephrase these as:

"the object x such that-" (1)

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

"the class of the objects x such that-" (2)

"to be an object x such that-" (3)

"to be objects x and y such that-" (4)

Quine says the last two are *intensions:* monadic intensions, or attributes, and dyadic intensions, or relations.

Quine treats propositions not as statements or sentences but as abstract objects. He says the proposition is related to the sentence in the same way the attribute is related to the object. These four prefixes are called *variable-binding* operators. While quantifiers attach to sentences to produce sentences, these four attach to sentences to produce singular terms.

"The sentence to which the operator is attached is called the *scope* of the operator." "Scope" is not used in quite the same sense as we used it to distinguish between "Everything" and "Something". It is, rather, the clause governed by the 'such that' the operator has absorbed. The operator (2) can absorb (1) if we write "x is a member of the class y if and only if …x…", but we keep it in the same spirit in which we kept the existential quantifier: as a convenient abbreviation.

Also, this method fails for intensional abstractions (attributes): We cannot paraphrase "to be an object x such that…x…" to "x has the class y if and only if…", a failure we can pinpoint as due to a distinction between classes and attributes, something Quine had foreshadowed in section 25! (This is because attributes are not supposed to be identical just because the same things have them, and so no condition is sufficient to fix *y*.)

35. "No variable inside an opaque construction is bound by an operator outside." For e.g., "There exists an x such that x wrote '9>x'": In this sentence, the second opaque occurrence of 'x' is not bound.

"There exists an x such that Tom believes that x denounced Catiline": Over here, the operator is outside and the variable, inside, but this sentence fails to make sense.

"There exists an x such that Tom believes x to have denounced Catiline" and "Tom believes that there exists an x such that x denounced Catiline" do make sense; but here, the operator and variable and both outside and both inside respectively.

"If x=y and …x… then …y…" has the air of a law and is indeed a law, although for "If Tully=Cicero and …Tully…then…Cicero….," we can easily find many natural sentences which violate this. This is not a law and merely a condition for referentiality of 'Tully'; variables always hold referential position.

In case we feel uncertain about its referentiality in a quantifier, we can always fall back on this law. If the law holds, the position must be referential. Occurrences of variables are referential relative to the scope of the quantifier that binds them for the law we stated refers back to the quantifier.

Quine now rephrases sentences with a propositional attitude. The verb of the propositional attitude "may be viewed as relative terms predicable of objects" such as propositions, attributes or relations.

Tom believes [Cicero denounced Catiline.]

Here, Cicero and Catiline are purely referential. The construction in its entirety, however, is opaque. This is not merely due to us construing the propositional attitude opaquely. Intensional abstractions of attributes, propositions, relations etc. are opaque. There is a failure of

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

substitutivity of identity from "the number of major planets>x" to "9>x", even though the number of major planets is 9.

For propositions: Let p and q be two statements which are true; this means that 'f(p)=1' is not the same as 'f(q)=1' even though f(p)=f(q).

For attributes: Let A and B be two coextensive but distinct attributes. "(If there were no such, we could forget attributes and talk instead always of classes.)" Then, "x is an element of the class of objects y such that the class of objects y has attribute A" is not the same as the x such that "x is an element of the class of objects y such that y has B" even though class of objects which has A=class of objects which has B.) (Note that in both the statements here, x is referential.)

36. "Relations of date are exalted grammatically as relations of positions, weights and colors are not."

"Hence in fashioning canonical notations it is usual to drop tense distinctions."

"We may conveniently hold to the grammatical present as a form, but treat it as temporally neutral." This is done in mathematics-we feel the 'is' in 'Seven is odd' to be timeless, unlike the 'is' in 'Mary is a widow.'

Applying this to everyday language, sentences such as 'I telephoned him but he was sleeping' become 'I telephone him then but he was sleeping then': treating it on the same plane as spatial information.

"Such rephrasing of tense distorts English, though scarcely in an unfamiliar way; for the treating of time on a par with space is no novelty to natural science." Heraclitus's river problem dissolves in this manner, too: "We see no more difficulty in stepping into the same river at two times than at two places." This view also helps one see why one's first and fifth decades can count as the same man, if their head and feet count as parts of the same man.

"There need be no unchanging kernel to constitute me the same man in both decades, any more than there need be some peculiarly Quinian textural quality common to the protoplasm of my head and feet; though both are possible."

Zeno's paradoxes dissolve when one sees that time can be divided just as infinitesimally as space.

Tense, then, gives way to temporal qualifiers such as 'now', 'then', 'before *t*', 'after *t*', 'at *t*'. Quine draws the distinction of giving temporal qualifiers to a *state* (Tabby at *u is* eating *y)* and to a *disposition* (Tabby eats *y*). He says he knows of no way to analyze the two into any common elements.

"Where canonical notation is cut off, leaving unanalyzed components, will usually vary with one's purposes." (Throwback to the maxim of shallow analysis.)

Saying that he will show soon how to eliminate singular terms, Quine says that what typically remains unanalyzed is a term-the general term-and it ends up in predicative position. (For e.g. 'I now have a dog' becomes 'There exists an x such that x is a dog and I now have x', in which the general term 'dog' becomes part of a predicated indefinite singular term.)

Compounded general terms can usually be analyzed into its components (F and G becomes 'object x such that Fx and Gx'). The compounded general terms we have previously encountered which can be analyzed as such are: Relative general terms, the joining of one general term attributively to another.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

However, general terms cannot always be reduced like so. Adverbs, syncategorematic adjectives and certain other juxtapositions (refer to 21) are some examples. There are also "dispositional combinations" such as 'eats mice.' In such cases, the compounded general term ends up in predicative position. Therefore, general terms do not always have a canonical substructure.

37. Previously, it had been said that, when definite singular terms fail objects of reference, the sentence is neither true nor false but simply uncalled for, because they do not clearly become false (or their negations true) in such a situation.
    According to our notation so far, 'x exists' would be rephrased as 'There exists an x such that x exists.' This has "little evident sense."
    Perhaps, then, the world 'exists' has no business in our vocabulary due to the existence of the existential quantifier. To say 'Pegasus exists,' we may merely say, 'There exists an x such that x=Pegasus.'
    'There exists a *y* such that *y=x*' "is, much like 'x=x', true of everything."
    There are still issues, however. It is anomalous for 'Pegasus exists' to be false if 'Pegasus' has purely referential position in the statement 'Pegasus exists' and '(x)(x exists)' is true.
    Furthermore, we are attempting to single out 'Pegasus exists' as true or false even though we had previously called sentences which failed reference as having 'truth-value gaps'.
    Singular terms which lack their objects thus raise problems.
    We may insist that only words learnt ostensively may be atomic singular terms, and all other singular terms are compounded ones. We may then devise techniques to meet possible failure of reference by the compounded singular terms by observing their structures. Quine calls this hopeless because of the personalized manner of everyone's term-learning history. He feels no reason to depend upon "emended re-enactments of genesis. Continued evolution…has served science better."
    Quine maneuvers all singular terms to a standard position '=a', where, due to the fact that they become, in effect, a predicate, they are general terms. Now we may say that 'Pegasus exists' is false if no object x satisfies the condition 'x=a', for "general terms raise none of the problems that singular terms raise." The 'is' becomes a copula, rather than a relative term; earlier, it was construed sometimes as copula and sometimes as '='.
    Sometimes, when the singular term is not in purely referential position, we need to mould the sentence with some torturing "to give the single term referential position with respect to its immediately containing sentence."
    The proposed reparsing should, says Quine, be limited to those singular terms that have no internal structure. "The proposed reparsing is then a reparsing of names as general terms."

38. Quine quotes: "The term '*x*' which from the grammar seems to be designating a subject of attributes, is really signifying an attribute."
    "Any question of a distinction between singular and general terms is irrelevant to stimulus synonymy."
    Our reparsing is distinct from the ordinary categorization in that it closes the truth-value gaps, but this was the very purpose of reparsing.
    "It would have been wrong if paraphrase carried a synonymy claim; but it does not." All it needs to do is meet needs for which the original might be wanted. From 33: "We can only let the

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

speaker in the paradigmatic situation decide firsthand if the paraphrasing is acceptable and delivers the same sense.”

Singular terms purported to refer to a specific object, unlike general terms. This distinction haunts our conversion from the singular to the general. How can ‘Socrates’ be a general term? “But remember that general terms frequently obey laws that seem accountable to the meanings of the terms and not to contingent fact; witness the law of symmetry of the relative term ‘cousin’, or the transitivity or ‘part’.” We may similarly recognize uniqueness as implicit in certain general terms. We could still reconstrue ‘Socrates’ as a general term true of many objects, i.e. Socrates’s spatiotemporal parts. The reparsing may still be recovered as: ‘x is a socrates if and only if x is a part of a.’ “A possible interest of this alternative is that the uniqueness of such an object *a* then follows from the logic of the part-whole relation.”

39. Our reconstructions can get quite cumbersome. One way to reduce this issue is to create shorthand. “Yet when our problems are of a kind that respond better to economy in the roots of the theory than to brevity of paraphrase and swiftness of deduction, we are still free to play the narrower canonical notations straight.”

“It is one of the consolations of philosophy that the benefit of showing how to dispense with a concept does not hinge on dispensing with it.”

Quine, W. V. O. (1960). *Word & Object.* MIT Press.

Chapter 6

40. "In the preceding chapter a certain air innovation prevailed, but only the blandest." We only went into paraphrases.

"Truth is a passing trait of a sentence for a man."

"The individual event of utterance can still be described as true absolutely, since a time and a man are specific to it."

The awkwardness caused by repeated reference to time, space and man must, says Quine, have been one of the reasons why philosophers like to posit abstract entities called propositions- "surrogate truth vehicles." A proposition is said to be steadfastly true or false.

'But this does not necessarily mean **that** both defendants were lying': The singular term referred to by 'that' is what is called a proposition.

Quine notes that it is irrelevant that the notation for singular terms has been dropped out, for the eliminations of terms did not eliminate the objects themselves.

"Surrogate truth vehicles": A proposition is a statement whose truth value never changes. They are eternal sentences, which in turn are standing sentences of an extreme kind.

Every proposition may be named by eternal sentences. One may object that for many propositions the appropriate eternal sentences may never get uttered.

Quine answers by saying that a sentence is not an event of utterance but a linguistic form which may be uttered often, once or never. What kind of a linguistic form, then? It cannot be taken as the class of its utterances, for then all unuttered ones would reduce to the null class, leaving no distinction between them.

And so Quine suggests, in order to keep their existence and distinctness uncompromised by failure of utterance, that we take each statement as a sequence of phonemes. Then we may consider each eternal sentence to have been uttered, for each phoneme would be uttered by a person at some point.

41. In modal logic, a sentence beginning with 'necessarily' is true if and only if the remaining part is analytic. Assuming that analyticity is predicable of sentences, we may say that 'Necessarily 9>4' can be rephrased as ''9>4' is analytic'.

'Implies' is a general term, whereas 'if-then' is an operator. This distinction between the two was subdued for long and emerged only, says Quine, in Carnap's writings, where it emerges due to the distinction maintained between use and mention as "the very distinction between modal logic and everyday talk of analyticity".

Quine says that his remarks on modal logic will be for the original (operatorial) interpretation. Why should we prefer that form, then? Quine says that an apparent advantage is the ability to quantify into modal positions: We cannot quantify into quotations. However, 'Necessarily the number of major planets > 4' is not true (the statement is not analytic), while 'Necessarily 9>4' is. So the position of 9 is not purely referential.

"The stubbornness of 9 consists in its being specifiable in ways that fail of necessary equivalence." We can quantify into modal position by excluding such "stubborn objects". We must then distinguish between necessary and contingent ways of specifying the same object.

Let us treat the sentence as a proposition, with an operator predicated to it. Then, much as how we treated the propositional attitude as selectively opaque and transparent, we may treat

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

modality as selectively transparent by "switching selectively from propositions to attributes", pinning the opacity on intensional abstraction. However, although this worked in connection with propositional attitudes, when it comes to modalities, the required task-to rate the attributes of an object as necessary and contingent-seems to be, says Quine, a baffling task. The philosophical tradition of 'essence' and 'accident' does exist for just such a distinction, but Quine calls it out on being unsupported by arguments.

"We cannot in conscience blame these varied sorrows of modality on the notion of analyticity. The latter can be had without the former."

Quine shows an alternative to the two modes (operatorial and non-operatorial)isomorphic to the non-operatorial mode: 'P is necessary' can be defined as 'P=[(x)(x=x)]', although he adds that it does not conform with the other two constructions if the proposition is construed narrowly enough in point of its identity (but does not say why.)

His last word on the matter is to leave us to wonder whether this issue will be there with the shown manner of stating isomorphic to the non-operatorial mode.

42. Quine turns to the problem of when to call two propositions identical.

"A usual answer is that the sentences are to be synonymous." The next step is to equate the proposition with the meaning of the sentence. Quine calls this a "well-known line."

Quine highlights the distinction between an expression and the object that the expression designates. "Sentences do not designate at all"; the meaning of the (eternal) sentence (if we admit things such as meanings) is the object designated by the sentence. The meaning of a non-eternal sentence is the proposition designated by its appropriate eternal counterpart.

Misgivings about what meaning is can be dissolved by identifying it with the very class itself of mutually synonymous sentences that have it. What about a criterion for synonymity, however? If propositions served as objects for propositional attitudes, stimulus synonymy would be insufficient; it would end up being unable to differentiate between analytic sentences.

Lewis and Carnap used the broader notion of synonymy in their modal logic; therefore, for them, the object propositional attitudes could not be propositions themselves, for then propositions would not have a tight enough identity. For them, the object of propositional attitudes were "more finely individuated objects." Regardless, further division of those objects into propositions fails because the criterion for intensional isomorphism was insufficient (#14). Quine says that he prefers to call propositions the object of the propositional attitude, for they "clamor for positing propositions."

Thus tightening the identity of the propositional attitude (as used in #41) implies that "if the meaning of every analytic sentence continues to be rated as necessary, there will be many necessary propositions." The definition of 'P is necessary' as 'P=[(x)(x=x)]' also fails.

We can have a graded synonymy based on intuition derived from communication, but that will not suffice-identity is absolute and knows no grades.

Quine offers a possible definition of synonymy: "Sentences in this canonical form of notation are synonymous if one can be transformed into the other by transformations of the logic of quantification and truth functions together with the substitution of general terms for stimulus-synonymous general terms."

The objections are as follows:

1) Logical transformations can become arbitrarily hard to perform for a human.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

2) Stimulus synonymy may be too loose to give the desired effect. (#12)
3) Recalling the maxim of shallow analysis, we can never determine when a certain general term will be replaced. It depends on the cause of translation. We also cannot assemble an absolute vocabulary of simple general terms due to lack of criterion; "arbitrarily assembled groundwork for propositional identity must be seen as gratuitous."
4) The proposed concept works only in canonical notation. "The objection can be put simply as the objection that we are explaining propositional identity relative only to one language." Moreover, stimulus synonymy was "tied to English from the start." (#12)
Here we begin to see hints of an argument against the very existence of propositions. Their meaning should hold, be identifiable and be the same in all languages, but in chapter 2 we had seen the impossibility of radical translation. "Identity of propositions presents not so much an unsolved problem as a mistaken ideal."

43. Propositions are posited due to imagined eternal connections felt between sentences. However, as we have seen, the indeterminacy of translation provides a permanent roadblock. Although our intuition tells us of sentences much like those truth-vehicles, synonymy claims are out of place because, as said in chapter 5 (#33), it is the speaker who will decide which the sentence is that may replace and not any synonymity criterion.
We may call the eternal sentences themselves truth-vehicles as opposed to the meaning of eternal sentences or propositions.
Talk of propositions gave us a sense of security due to their ontological status, and we never questioned their connection to statements. Now, with eternal sentences, the question does arise, and the answer is a well-known one: The speaker decides which the sentence is that may replace.
These reflections on propositions apply to all intensional objects and attributes for the same reasons (indeterminacy of translation and their alleged universality). All of these are majorly replaceable by eternal sentences, general terms and classes. "Classes raise no perplexities over identity, being identical if and only if their members are identical." Moreover, intensional abstraction is opaque (#35), while class abstraction is transparent, which has its advantages.

44. Classes cannot completely perform the job of attributes as objects of the propositional attitude, for two attributes can be coextensive and yet distinct, unlike classes.
"The next idea suggests itself of taking as objects of the propositional attitudes things whose identity conditions are even stronger than the propositional attitudes require."
Certain special sentences will be disturbed by strong identity conditions. For example: 'Paul and Elmer agree on exactly three things.' The identity condition will, like a computer program, run forever to ensure that there is no fourth thing they agree on, run unendingly all the way till infinity. The queerness of this example is, according to Quine, indicative of the uncertainty felt about the identity condition for the objects of the propositional attitudes.
There is an issue here due to symbolism: When attempting to distinguish between whether a man said p or q, it may be said that the man is "saying" as many distinct "things" as we like via indirect quotation.
So we may adopt the sentences themselves as objects for the propositional attitude: Notational identity.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

To shift from classes to quotation would mean to drop the power of transparency. However, there never was any transparency with intensional abstraction; we therefore feel no loss.

We need to make a certain relativity to language explicit. What if the same set of phonemes have to different meanings in two different languages?

Church's argument for a fundamental difficulty I treating the objects of propositional attitudes as linguistic forms is that translating 'Tom believes *x* in English' to German (Tom glaubt *x* auf Englisch) will not give the same effect as 'Tom believes *x*.' While Quine admits that the two are not like in meaning, he says that we are not looking for likeness in meaning. We are only looking for the speaker to agree for replacement of the sentence by the other sentence in question. Quine's own objection is the dependence on the notion of *a* language. When do two languages count as identical and distinct? "Clearly such questions should be unconnected with the propositional attitudes." It would be preferable to refer to the speaker instead: 'Tom believes *x* in …'s sense.'

An alternative is to attach all events of the utterance of, say, 'Cicero denounced Catiline' in any language under an utterance-operator and then explain 'x says y' as 'x makes an utterance that y.' We need not speak of any language, since an actual utterance will always end up being of one language.

When we extend this method to idioms of the propositional attitude other than indirect quotation, though, a difficulty arises: How can we say that x believes some utterance that y does not? Belief does not produce utterance; utterances are (tautologically) disturbed by failure of utterance. An advantage of sentences is that they are not. However, 'w believes-true an utterance p' is undisturbed. By saying 'w believes p', we are creating a sample utterance of p and thus dissolving the issue. Perhaps, then, the statement that are affected, such as 'w believes something', are those we will have to be indifferent to these sentences, much like 'Paul and Elmer agree on just three things.' "Such quantifications tend anyway to be pretty trivial in what they affirm, and useful only in heralding more tangible information."

But then we need not recognize 'believes' and other terms which do not ensure utterance as relative terms at all, and so no need to countenance its predicative use in 'w believes that p,' and so no need to see 'that p' as a term at all!

Quine's final alternative is to dispense with the objects of the propositional attitudes altogether. The 'believes' in 'Tom believes [Cicero denounced Catiline]' becomes part of a variable-binding operator which produces a general term. The part in [ ] need not refer to any object.

45. Let us examine the mechanism of indirect quotation a bit more, which we left off at Quine's proposal of 'Tom believes *x* in …'s sense.'
There can be no fixed standard on how far indirect quotation can deviate from the direct, for the degree of allowable deviation depends on the context. It is to be judged on the basis of dispositions. So, sometimes, does the truth or falsity of the indirect quotation; true when "no capital is to be made" of its divergence, and false for the negation of that.
Indirect quotation involves *imputing* ourselves to unreal roles. "We do not generally know how much reality to hold constant." Regardless, we find ourselves attributing believes, wishes etc. Indirect quotation is of great utility.
It seems that indirect quotation cannot be fixed by dispositions either. The situation is worse with sentences like, say, belief sentences, for there is not only the issue of explaining belief as

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

disposition but also the issues raised by dumbness and mendacity when explicating belief as the disposition to assent to sentences.

The irreducibility to behavioral terms makes it susceptible to the indeterminacy of translation.

46. Quine now turns from the propositional attitude to the other great class of speech acts: The subjunctive conditional.

With the ordinary conditional, the yes/no of the antecedent, once known, fixes that of its successor eternally and all interest is lost. The subjunctive conditional is a bit more dramatic in that, rather, "we feign belief in the antecedent and see how convincing we find the consequent."

Much like how we could not find a general decision procedure to write indirect quotations, we cannot find a general substitute for the subjunctive conditional, either.

It is the structure of a theory underneath the decision to accept or reject the implication of the conditional that determines acceptance or rejection of a conditional's implications. Dispositions are all based on enduring structural traits and are thus "better-behaved" than the subjunctive conditional; "the subjunctive conditional is seen at its most respectable in disposition terms."

Quine arrives at the conclusion that had, in fact, been hinted at all the way back in chapter 1 itself: There is no way to tell of how extensive the structure underneath a given disposition may be. It is more of a graded scale. Moreover, the farther a disposition is from theory, the vaguer it is. This, says Quine, was why we could not analyze dispositions back in #36 ('Tabby eats mice').

47. Quine now conducts a grand windup of all that has been done, leaving us with a framework for a theory.

When constructing theory, scientists keep going back to eternal sentences in order to create observation sentences. Logical theory is a case of such extremely eternal sentences.

We are left with: Predication, quantifiers and truth functions. Their components are variables and general terms. This is a scheme for a system of the world.

"Short of fixing the totality of admissible unanalyzed general terms," we may still form categories. The austere regimentation performed need not be heeded to in all communication; only when the conversation calls for it, for e.g. if the conversation is on the ontology of the Universe.

Quine moves on to offer a condition for identity of general terms, thus giving '=' its importance.

Quine shows that we cannot find a fundamental set on the basis of which "all traits and states of everything could in principle be formulated". Consider S1, S2, S3. These sentences themselves are objects, and when fed into themselves as a variable, can be true or false of themselves. By using Cantor's diagonal argument, it is shown that no general term x can exist which is true of those sentences that are false of themselves. (If F were such a term, then taking it as a sentence, Fx would be true of itself if and only if false of itself.) [Of course, Gödel's incompleteness theorem should have worked just as well to prove this.]

We can, however, *reduce* a conceptual scheme greatly. Quine cites a paper of his which proves that all the general terms in a scheme can be reduced to a single dyadic relative term.

Now comes the question of what values our variables can take, for "the very meaningfulness of quantification would seem to presuppose some notion as to what objects are to count as values

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

of variables." Explicitness is unnecessary because "our quantifications depend on truth only upon certain special denizens", but the next chapter will be a meditation on this matter.

Quine, W. V. O. (1960). *Word & Object*. MIT Press.

Chapter 7

48. Disbelief in abstract objects is called nominalism.

Quine gives some reasons explaining why we have more confidence in physical objects: They belong to a basic stage of language acquisition, they "are at the focus of the most successful" communications, and because we learn them through direct empirical evidence.

Quine says that while the first two are causes for confidence, the third is a "defensible reason". Some objections may be: It makes no case for highly inferential physical objects, and that it is more of an argument for sense-data than for physical objects. The first objection may be dismissed by an appeal to continuity. The other is not, says Quine, an objection to nominalism, but one to physicalism. That objection stands on the following grounds: That we cannot hope to make subjective sensory objects suffice to the exclusion of physical objects, that we do not *need* them in addition to physical objects, and that we do not need them for discourse on physical objects themselves.

Now, we had preferred physical objects due to directness to stimulus. However, we have raised certain objections against subjective sensory objects. Do we weigh the advantages, then?

No; "on maturer reflection the pictures changes." Due to the indeterminacy of translation, we cannot differentiate between whether it is the physical object is being talked about or the subjective sensory objects. And so proximity to stimulus is no grounds yet for positing physical objects. We may say that a physical object has been posited when we have brought the relevant term "into suitable interplay" with language. Whether to give it access to general terms in our language may be decided by its utility for theory.

But this, says Quine, hurts nominalism; for numbers, classes, etc are posited precisely for their efficacy.

Proximity to stimulus has come out poorly, then, as an argument for physical objects. But Wuine suggests salvaging something by saying that sentences in proximity with stimulations exhibit terms for physical objects in all sorts of positions. By this, says Quine, common terms for physical objects may come out better than those for abstract terms.

Although we have a case against nominalism's claims, it is not a case against preferentiality for physical objects. Their utility is still maximal, their use comfortable, successful and basic.

49. Let us now consider potential reasons for preferring abstract objects.

"If attributes are held to be broadly analogous to sense qualities, the same appeal to continuity can be made." However, the same arguments appealing to lack of utility apply.

Some feel that a general term predicated is not just about the named object, but the object and the attribute symbolized by the term due to the "object-oriented pattern of our thinking." (To signify an attribute means to signify a continuum of objects.)

This cannot work because the term may assume the object without assuming the continuum. [On What There Is]

Disagreement over the existence of an object can be eradicated by conversing in canonical notation, although only the opponent may paraphrase his own statement. If he refuses, we end up resorting to analytical hypotheses.

Quine, W. V. O. (1960). *Word & Object.* MIT Press.