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STUDENTS' MISCONCEPTIONS OF TIME/RELATIVITY IN LANGUAGE LEARNING

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INTRODUCTION

This paper addresses an issue that relates to the understanding of how EFL students deal with their (mis)conceptions of time/relativity when using verb tenses in English. Why do EFL students have so much problem using the perfective aspect of tenses? Are these problems related to their concepts of time? What kinds of concepts do they hold in their conceptual framework? Is time independent from space for these students? Is time-space relative for them? Do they see any linkages between the use of tenses and time-space/relativity?

The subjects in this article are college students from various fields who have in common the fact that all of them are studying English as a foreign language, nevertheless, at different levels: 50 students of Computer Science, 25 students from both the Bilingual Secretarial Course and Letters (English-Portuguese), and 7 students in their last semester of EFL. Except for the seven students in their last semester of the Portuguese-English course, the 75 others had the option of presenting their views, drawings and answers to questionnaires in either English or Portuguese. However, although they had this choice, most of them responded in English. The longer and more complete answers were given when the questions were an integral part of a test or exam, that is, the students were given the opportunity to a question which (they were told) would be marked as 'correct' no matter what kind of answer they wrote. The only requirement was that they had to give complete answers and expand them to a full explanation of their views.

THE PROBLEM

In more than fifteen years of EFL college teaching, the author could notice the difficulties students have with learning the use of tenses in English. In high school--and elementary school, as well--teachers, teaching materials and programs emphasize facts and patterns about verbs and do not deal with the most important part of grammatical studies: the question of choices (Ellis and Sinclair, 1989). When they enter college and take an EFL course, in which they have to practice the five skills--reading, speaking, writing, listening and culture--,they state, formal or informally, that they do not know how to choose a verb tense that might be adequate to the point they want to make, or to the message they want to express. As

they all are native speakers of Portuguese, they say that they cannot master the use of verb tenses in English because of the differences between the two languages in relation to verb tenses.

In their native language, there is a verb structure that is quite similar to the students' major difficulty--the present perfect. Although the structure is almost the same and it is used very similarly in English, they do not feel at ease when they have to study, or use, this pattern. Perhaps, it is because, in Portuguese, people seldom use the present perfect in their conversations, or even in their writing. Another area of trouble is the past perfect. Again, there is an equivalent in Portuguese, which, like the present perfect, is seldom heard or said by the average man-on-the street. Why this avoidance of such patterns in English? Don't they know the facts and patterns of perfective aspects in EFL?

From the experience with student-teachers of the Teaching Training Practice course, in their observation classes of various teachers of elementary and secondary schools, it is possible to say that teachers, in general, do not work the possibility of choices concerning grammar (use of tenses in particular) with their students and present them as a set of fixed rules and structures, with formulae for the affirmative, negative, present continuous or progressive, future. The examples given as models in textbooks and/or at the chalkboard by teachers are de-contextualized and with a very heavy load of stress on form and memorization. They do not link tenses with the role an adequate choice of verb tense can represent in the message, in the expression of feelings, thoughts and actions.

Student-teachers, at the end of their undergraduate language course, come from their obligatory observation classes with comments such as:

- verb tense are taught in a compartmentalized way, so that at each new lesson they are introduced to a type of structure, in its modalities of negative and interrogative forms;
- the teacher seldom establishes a connection with time, and when they do this, it is as if time runs through, unchangeably, in its forward motion;
- textbooks present verbs as self-contained units in especially selected examples and artificial texts, in which the close relationship of verbs with content and context does not seem to matter;
- tenses like the simple present, past and future are practiced as if they were wild animals, each inside its very own cage, having each cage marked with a single time-label, referring either to the present time, or to the past or the future (that is, a present tense must only refer to the present time and cannot be linked to any other time so that the past must refer to a time in the past, and so on);
- students seem to think that the most important thing to know about verb patterns is precisely these patterns, while they do not seem to want to know how to use them in real life situations;

-teachers rarely treat tenses as related to a narrator and/or a listener and the time of this narrator/writer or listener/reader who moves about in his/her own space;

-teachers almost never present tenses as relative to time or space in real life, except in tteacherese, a fake language used in classroom situations, which are especially tailored to fit some three dozens of examples of tense use which are dissociated from what goes on outside the classroom.

What seems to be the problem with those teachers ? According to the student-teachers, some of these elementary school teachers are afraid of leaving the safety of their textbooks and study verbs in a more meaningful way. Rote learning apparently is the easiest way of following the school program, without getting hurt by exposing their own doubts to students and/or other teachers. Memorization is possible with facts and patterns, not with choices because these choices depend on the content and on the whole context of the text or the message.

When college students face the need of using an adequate verb tense in order to put through their views, or answer a question, they express their handicap concerning this matter:

-If you asked me the form of the present perfect or the interrogative negative form of the present perfect continuous, I would be able to tell you, but I don't know how to use the verbs when I talk or write.

-It's very complicated to relate tense with a series of other things such as time, context, etc..

-English is far too complex. Portuguese is, too, but there I know how to avoid the things that I don't know and still be understood.

With data collected along the years, the author formulated her research question that was what bothered students, in relation to the use of verb tenses: their way of looking at time (their concept of time) which this was interfering with their learning of verb tenses. Besides, the reaction to EFL and, more specifically, to the use of verb tenses of the 82 college students involved in this study, seemed to be a reflex of the emphasis on memorization from their high school and elementary school days.

In order to verify whether the author's intuitive feeling about the connection between tenses and time could be confirmed, questions were given to the students in which they could freely explain their points of view about tenses/time/relativity. The specific question about Physics--Can you remember the concept of time you studied in Physics ?--was given to the 50 students of Computer Science, since, in Brazil, language and secretarial students do not have to take Physics in high school. Question 8 was asked just to the seven students of English 8, and

line goes forwards not backwards. We cannot go back and re-traveled the same line again. Once the moment has passed it is final. However the present can prepare the actions for a future moment: the things that will happen tomorrow, next week, next month, a year from now. Time is this line that shows things and actions in a linear progression of events that have already happened, are happening now, and will happen next minute or some day.

-Time is a way of seeing things in a line-sequence. Example: historical facts such as 1500 and the discovery of Brazil; 1822 and the Independence; 1889 and the Republic; 1992 and the end of the Collor era.

b. time as a word/ a word linked to tense

-Time is a word with the same meaning of 'tense', but used in a different way. In English there are two words to say what in Portuguese we have just a single word--tempo for 'time' and for verb 'tense'--and they have different meanings. In Portuguese, TIME (tempo/tempo verbal) is more complicated. Time, for me, is a period inserted in time, with the characteristics of that period of time. Example of this are the various periods of literature: romanticism, realism, modernism.

-Time is the means invented to show the difference between/among things, weather, verbs.

c. time as clock/timer/ measurement

-Time is the means invented to show the difference between/among things, weather, verbs.

- Time for me is the clock. I cannot separate 'time' from the clock. For instance, as I am hungry now, it is lunch time ! It is the clock outside that ticks and tacks, or bangs, or rings, or sings and the clock inside that tells my personal times.

- Time is linked to 'it's about time' which we use to express our impatience about things that haven't happened yet, and which we would like to happen very soon. Time is now and it is past or future. Time measured against a clock.

-Time is chronological (clock) time, counted in seconds (or fractions of), minutes and hours forming at each 24 hours a new day (or a past day), at each 30 days a month (or a past month) and a year at each 12 months. Within these time frame we have important time marks. In Portuguese, the word 'time' can be used for 'tense' and for 'weather'.

-Time is a chronological period that determines the moments in which something happens/happened/wil happen.

-Time is a unit of measurement--hours, minutes, seconds--which, by themselves, regulate life. Everything moves around the idea of time. Without it, we would be either completely lost or experiencing total happiness. Time is a chain that puts strict and terrible limits to our life.

-Time is the way of measuring something according to standards that were created by ourselves (clocks, timers).

-Time is the period (hours, minutes) that it takes for something to happen in our personal life, our friend's life, the community's life.

-Time can be a certain amount of hours, minutes, seconds, days, months, years we take to achieve a goal. Time can be measured as a fixed interval. When we refer to time, we might be referring to the weather or the climate or to the clock.

-It is a period that can be measured in smaller units, such as seconds or fractions of seconds. It is always moving and it never stops or goes back.

d. time as an infinite fabric

-Time is infinite; actions are interwoven all the time by the past and present. The future depends on this interweaving of what is happening now and what happened before. It is like the links in a chain, inter-related and inter-dependent.

e. time linked to space

-Time is the space between eras and smaller moments. It is the distance between a particular moment that happens and another that will happen.

-Time is a period of space. Time and space are together and cannot be seen separately.

-Time is space.

f. time as motion/displacement

-Time is the thing we need in order to do something. It is the period a body needs to move from one place to another.

-Time is the movement of actions. This movement has a single direction and you cannot put your brakes on time. It will not stop. You cannot put it on reverse, it will not go back.

-Time is movement that separates us from the past and the future and what links us to the present.

g. time as life

-According to my opinion time does not exist. What really exists is life. Different lives of many people but still lives and not different times.

2. CAN YOU REMEMBER THE CONCEPT OF TIME YOU STUDIED IN PHYSICS ?

a. Yes, I can remember.

- Time can be seen as the rotational movement of the earth in 24 hours.

-Time as space and as the distance between present and past, and between these and future.

-Time is the period which is necessary for a body to move from point A to point B.

-In Physics we get time through distance and velocity.

-Time is the arithmetic means between distance and velocity.

-Time is the minimum scalar unit. It is the ratio between velocity and displacement.

-Time is the exact magnitude by which other magnitudes are measures and calculated.

-Time is the lesser measurement of a space in which a greater one is inserted.

-We used the concept of time to calculate velocity and distance. We did not study TIME. The teacher said it was not important.

-In high school we studied time for calculations of distance and displacement.

-Time is velocity by distance. I can't remember the concept because we did not study it in particular. I know that it relates to distance, space and motion but I cannot put together more information about it.

-Time is a marker which serves to determine the duration of any phenomena, be it natural or man-made.

-The concept of time relates to the time velocity takes to go from one place to another. It has to do with motion but I don't know how.

- Time in Physics is the particular period in which something occurs or might occur.

b. No, I cannot remember

Thirty students, out of fifty, could not remember anything related to the concept of time. Some said that they had not studied it; others did not remember having had anything important in their Physics classes; others did not have Physics in high school.

3. IS THERE RELATIVITY IN TIME ?

a. Yes, there is relativity.

-Yes, there is but I don't know what kind of relativity there is in time. In Physics time depends on other things such as gravity and falling bodies but it is too difficult and complicated to remember. I really don't know why. I only know that there is relativity in time. That's it.

-Yes. Yes. There is relativity in time. How ? Why ? I have to ask someone else.

-In order to use momentum you have to use time that might depend on the moment to make it happen.

-Yes, because no matter the time, it is always relative to something, which, even if it is not explicitly stated, is there someplace, somewhere.

-Yes, because time signals the time we are living or referring to at that particular moment.

-Time as a unit of measurement is not relative (even if a clock or timer has a problem going faster or slower than the normal standard for it is a problem with the clock or timer not with time and its measurements); it is relative when you talk about time as weather, that is meteorological time. Then it is relative: it depends of clouds, evaporation, winds, humidity, altitude, season of the year, etc.

-Yes. An example is the acceleration of a car that will increase speed according to the factor time.

-Of course ! Time is not the same for everybody or everything or for every action. Two classes of English are a lot longer than the time I spend with my girlfriend.

- Yes, there is relativity in time. It is different and relative for some people and for others it is not.

-Yes, I agree with Einstein that time is relative to some elements such as space, falling bodies, matter, gravity, speed of fall, etc. Besides, we can feel this when time passes in a different way according to what we are doing. The more you work or play the more quickly it goes by. It is relative to force.

- I think it is. I am not sure. I know that it depends on space and on your own point of view. What I mean is that it depends from where you look at it, then it can be present, past, or future. It seems that it is where you stand is important to establish the relativity of time.

-Yes, there is and it is linked to where you start and end something. That is, it is determined by a fact or phenomenon.

-I can apply time/relativity to TIME and TENSE when I study all the verb forms, reviewing the use of each verb tense in connection to the time it may show or demonstrate.

-There is a relationship in the meaning of TIME x TENSE for when we talk about verb tenses we are talking about a moment or a period in which something happens, happened or will happen. TENSES are related to TIME because they insert an action in the line of TIME.

-Yes, undoubtedly there is relativity in TIME and verb TENSES show this relativity in the complex mechanism of verb conjugation and in the markers of past, present and future.

-Relativity of TIME linked to TENSES depends on the force used inside a particular space. The different verb tenses translate the space in which the action takes place.

-When we study tenses we normally don't link them to TIME. The books present TENSES and TIME as unchangeable within the time patterns of past, present or future. We know that, in order to use a specific verb tense, we have to see it and the action in contrast with TIME. If we don't pay attention to relativity our use of tenses in sentences will be completely empty and meaningless.

-In the study of tenses we have to situate things in chronological order regarding TIME and then we have to apply the chronology expressed through tenses to the TIME we want to communicate. In the chronological line of TIME there is a specific point or period for each specific TENSE.

- There is relativity in TIME. TIME relates to space and TIME, and space provides the place where the actions will happen. The actions have to agree in TIME and TENSE. When we want to write about the future, we cannot use a tense of the present time and so on.

-In order to have meaning, TIME has to be relative, that is, it has to be connected to a space or place in which an event occurred, occurs or will occur. In the study of verb tenses this relativity is even more relevant since it is necessary to match facts with space and time. TIME cannot be considered just for its own intrinsic value. It has to be measured against a context of space and tense.

-There is relativity in TIME---> as an epoch, as a period, as a minute. TIME is necessary when we need to think about how to use verb tenses. The structures become important when they are studied in relation to TIME. Without this link, TENSE does not have any specific use in any language, I think.

-Yes, there is some relativity. It is not a fixed relativity. A relativity that has to do only with the succession of events. It is precisely here, at this point, that the differentiation given to TIME by verb TENSEs is of some relevance.

- TIME and TENSE are not relative in themselves. Time considered by itself is not relative. Tenses considered by themselves are not relative. There is relativity when they are considered in relation to each other. The most important aspect of relativity between them is the meaning TIME and TENSE add to a sentence.

-Relativity of TIME exists in order to relate something that happens, happened, will happen, 'what' happens, etc., 'where' these things occur. TIME cannot exist without space. Relativity is always present in TIME with space. When we talk about verb tenses this relativity is even more present because we have to measure TIME, space if we want to use the adequate verb structure.

b. I don't know.

-I really don't know. I think that time is time, no matter what, and that it does not change in relation to other things or elements. If a stone or a feather, objects of different weights, are dropped from a high place (e.g. the Tower of Piza) it will take the same time for them to hit the ground. So time does not vary in relationship to any other factor. It may seem to be relative to certain things, like gravity and motion, but it is not.

-Yes and no. It is relative and changes to past, present and future according to the way you see it. No, it is not relative because time is linear and goes forward to the infinite of time. Time is always eternal. This an unchangeable truth without corollaries.

c.No, there isn't.

-Of course not.

-No, time is not relative to anything. It always passes exactly the same way. However it seems to us that when we don't like something we have to do it takes longer to pass. On the other hand, when we like something very much it goes by a lot faster. However, it is not the time that goes slower or faster, it is our feelings (internal factors) that make time looks different. Time does not change--it is always identical.

4. WHAT IS, IN YOUR OPINION, THE RELATIONSHIP BETWEEN TIME AND THE VERB TENSES WE USE TO TALK ABOUT TIME ?

-Verb tenses help us express TIME so that others can perceive the time we mean. Verb tenses help us talk about the line of time: going backwards to remember actions that are gone forever; going forwards to make plans for the future; staying at that particular point in the line of time to tell what we are doing or experiencing in the present.

- Verb tenses define the moment in time in which the action takes place. Verb tenses follow the same idea of TIME, that is, they are linear.

- TIME is a space between events, and verbal tenses refer to that time, according to the moment in which it took place.

- Verbal tenses and TIME are very close to each other. Verbal tenses depend on the TIME to which they refer to. This time can be seen as a point in a line, moving in the direction of the future.

-Verbal tenses situate actions and events throughout the TIME.

-They are identified with TIME since they can express future, past or present.

talk about the other. We have to use a tense to explain or explicit TIME. TIME exists without verb tenses, but we cannot talk about it if we don't use the correct verb tense. We cannot use the future tense to speak about the past, and so on. There is to be coherence between tense and time.

-Verb are either in the past, present or future. There are not other alternatives. What causes this is the strictness of TIME.

-Yes, there is a connection between TIME and TENSE, because TIME can be used in expressions (present, past, future, future II, conditional). Time can be signalled by adverbs or other words. TENSE are the structures used to put TIME in linear sequence. The structures with auxiliary and main verbs structure TIME.

-Yes, there is a link. TIME = space+time+epoch+period+hour+occasion+moment. TENSE is linked to verbs (do, does, did, will, would + infinitive form). When we think about TIME (epoch or period or moment) we think about verb tenses or we think with verb tenses. We also use words such as today, yesterday, tomorrow, next, ago, last to locate ourselves in this time of action.

-Yes, there is. All of our actions, events, phenomena happen within a temporal space. Verbs reflect and demonstrate when something happens.

-Yes, present, past and future tenses establish the TIME we are referring to. Without verb tenses we would not be able to talk about TIME. We can use verb tenses, with verbs like feel, be, seem, without expressing TIME, but TIME needs verb tenses.

-The grammatical category TENSE corresponds to the real chronological idea of present, past, future and the moment of speech serves as a reference. But sometimes there is a relationship without any correspondence between the real events and grammar tenses.

Examples: The train leaves at five tomorrow (future time & present tense).

When you go there tomorrow, nobody will be there (idem).

I wait and wait and he tells me he is not coming (past & future time x present tense).

The temporal context is in contradiction with the use of tenses, and there isn't any correspondence between time and tense in these and many other examples.

-Yes, there is a clear connection between TIME and TENSE, because one explains time in itself, and the other uses time to show the progression of facts and happenings. When we say, "It's eight o'clock. It's late.", we show a time, an epoch in which something might be happening.

Whereas when we say, "I stayed till 8 o'clock in your house. It was late.", we also consider time, but it is an action that happened at a specific time in the past. The verb tenses show the difference between the two sentences.

-The concepts of TIME and TENSE are intrinsically linked as far as the representation of the action goes. The concept TENSE represents, through verbal forms, the different forms of TIME.

-In my opinion, one relates to the other because TIME is what we calculate in hours, days, years, a period of duration. TENSE is what shows us whether we are talking about the present, the past or the future, that is, it tells us when an action or event occurred. In order to talk about TIME, we need the verb TENSEs.

-Both are linked to the physical concept of chronology> Both determine a chronological position of events in historical time .

-TIME and TENSE represent the same sense of time because tenses deal with different time--past, present and future.

-I see a connection between the concepts of TIME and TENSE, since tense is the way we depict actions that may happen in a certain time frame.

-TENSE is TIME applied to verb tenses to locate things, actions, events within a reference of TIME. TIME is used in other ways, almost all of them connected to the time that appears on clocks and watches and which varies according to the official time established in England. TIME in Japan is different from TIME in Brazil.

5. WRITE AN ADEQUATE SENTENCE FOR EACH OF THE FOLLOWING TIMES. EXPLAIN ITS RELATIONSHIP TO TIME

The sentences presented here together with the explanations were written by the students. All of the 82 students wrote their sentences, however, they were too repetitious--and they still are. The explanations reflect some of their misconceptions, mostly their viewing of 'time' as a line in one direction. The explanations, except for the spelling mistakes, are loyal to the ones written by the students.

a. Present

-She never gets up early. It describes an action that goes on every day.

-Mary works in a factory. Because it is happening now.

- I am using a broom to clean the floor. It describes something that is taking place now, at this moment.

- I usually wake up at 6:00. It's because that is the time I wake up every day. It is in the present because it relates to time in general, that is, it is true for today, yesterday and tomorrow. That IS the TIME I wake up even on Sundays.

-I'm going home now. Present continuous because it refers to many points in the line of time that belong to the present time.

-He eats fried cheese in the morning. Habitual action that is repeated in his breakfast. He has the strange (and bad) habit of eating fried cheese every morning. Linearly, there are many marks in his time line for past mornings and present mornings (breakfast times) and, maybe, future mornings for eating this horrible thing.

-I am very sad today. It's now that I am sad. Tomorrow I might be happy. Or less sad. It refers to the way I feel in the present time.

-At our home we drink much tea. A truth about our family. We drank yesterday and will drink it tomorrow and the day after tomorrow. In relation to time this means that there is a constant period of time that can be measured in minutes or hour devoted to drinking tea. This measurement can start with my grandparents, and go up to I don't know what generation.

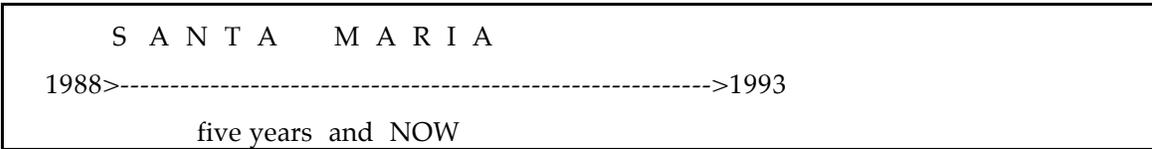
-I like to study English now. The 'now' reinforces the idea that this is something, which is new and which is now. I did not like to study English before, and now I do. It is a recent happening or feeling. The present in present time.

-I wash the dishes every day. That's what I have to do. Nobody does this for me. Present, past and future of washing dishes in my house. Present tense marks this possibility. Actually, this use of present is different from TIME. It is so complex to think that the present tense expresses not only the present time, but the past and the future...

-The Earth is a planet. It has always been: the truth (scientifically speaking) about our planet.

-I do my test and answer this question. I am doing my work at this moment. Maybe yesterday at this time I was doing something else, but now, at this present time, I am doing the test and answering the question. Tomorrow at this time I will be at my office working with a PC. Present tense related to a present doing.

-I have lived in Santa Maria for five years. It means that I am living in S.M. now. It talks about the present of this exact moment because I live here and I don't have any plans to move from S.M. now. In a line, I mark this time as:



b. Future.

-It will rain tomorrow. Something that is not happening now and that will happen some hours from now: ----->>>>>>> it will rain

-I'll stop and ask the way. We use the future to express a promise or a determination. It has to be in the future because in TIME it lies ahead.

-She will be fine next week. We use it to make predictions. Now she is not well but we can see that she'll get better soon.

-I will drive my car. I am not driving it now. It is not happening NOW. It will occur, I think.

-I'll go to the beach next month. This is something certain about what will happen: I always go to the beach in July. I know that this will happen. This future time is clear.

-I will be running tomorrow. Tomorrow I am planning to run at Parcão. It is a prevision about tomorrow. Future time= future tense always.

-I will go to Ceará next summer. Will --> indicates future time and next means near, close, a time in the future.

-I will prepare a very good dinner. One day or night I will cook something very good. Not today, not now.....but someday----->future.

-She will go to the bank tomorrow. In this sentence, I'm using the future to write about the future time because I'm making a prediction. I decided in the NOW about something for the future.

-If it doesn't rain, I'll ride my new bike. It's in the future. It's a future time, then I have to use the future (the verb in the future).

c. Past:

-I worked all day. I am not working NOW. I stopped my work. I am looking at the past= simple past.

-I saw Fred in town. This action is finished. It happened at a definite time in the past.

-My friend crashed his car the day before yesterday. When you are explaining a situation that happened in the past and you know when, you use the simple past.

-I drove my car. It happened one day or many days. I am not driving my car. It's in a time of the past.

-I paid an extra money for my apartment last month. The action happens only in the past, a specific time in the past and it is finished.

-Richard lived here for ten years (but he doesn't anymore). He lives in another town. He moved from his house. An action in a time in the past.

-Sam phoned a moment ago. Ago= time or moment in the past. He phoned and the telephone is silent now.

d. Past before the past.

-John had just finished cleaning the mess when the police arrived. We use the past perfect tense to describe an action that took place in the past before another past action. The time is the past, looking at the past that is a time in the past but we look at this past from the past.

-He had finished when she came. First he finished what he was doing and she arrived after he finished. Finished comes first in the time. Came is first in the past.

-They went to Paris because they had travelled to Madrid before. They went to Paris and then they went to Madrid, that is, they did not go to Madrid but to Paris. Madrid and Paris are places in the past, one after the other.

-When I had left, Ann arrived with my friend. This is referring to an earlier time in the past and it is describing actions in a line of time, one before the other.

-The Browns went to Bahia because they had visited the rest of the country before. The past before the past (had visited) refers to another past (went). We have two different times and one is nearer than the other. Had visited is more distant than went.

-I had waited for two hours when my boyfriend arrived. That's past+past and simple past to write about a time that's gone now. I don't wait for him now but he waits for me. It's past before the past.

-He had taken a shower before coming to school. I use the past perfect tense when I want to talk about two past actions and emphasize the one that happened first.

-I had already had lunch when he phoned inviting me. When one thing happened before another, we use the past perfect for actions before others that are in the simple past tense because it is a reference.

-When Chris arrived, his father had gone. We use the past perfect to refer to an earlier past (an action in the past + an action in a past before the past in the immutable line that represents time).

6. WHAT IS YOUR OPINION ABOUT HAVING A "SENSE OF TIME" ?

-We feel TIME in different ways: sometimes it goes very slowly, and others it runs very fast. When we talk over the phone with a friend we do not realize the number of minutes that have

gone by--the bill tells this later. When we are doing something boring, two or three minutes seem half an hour.

-Three minutes to boil an egg seem a long time if you are there right by the stove watching it boil. Three minutes far from the stove are a short time. It is relative.

-When the alarm clock rings and we decide to stay for ten more minutes in bed and we sleep, the ten minutes become almost a whole hour. In bed when we are tired--a special place--we cannot have a good sense of time. The eight or ten hours we sleep some nights seem one. Our sense of time varies according to the place we are in, what we are doing, with whom we are, the time of the day.

-My brother told me, when I was little, that you knew that a minute had gone by if you counted very fast from 1 to 60. I thought that a minute was something very long. I don't have a sense of time.

-Reading Romeo and Juliet was nice. However, I still cannot understand the time in that play because so many things happen in three or four days. I don't know why, but I tend to measure time either by clock-time or by the things that can be done or happen in a period of time.

-I cannot say that I have a sense of time that can be compared to the clock. Mornings go very fast and afternoons go slower. People in theatre have a good sense of time and they have other standards to look at time.

-Speed can give us a sense of time: if we drive 80 km/h when we have driven 40 km it's 30 minutes. I think that smaller amounts of time are a lot difficult to count or measure.

-Waiting in line makes time seem very slow. A ride on a roller-coaster at an amusement park makes two minutes seem long even with the roller-coaster at great speed. It is the sensation or fear we have there that makes the ride so long.

-My sense of time is not good. When I look at my watch and see the time there, I can't ever guess it right. I cannot wake up without an alarm clock if I have an early appointment at school. I need a watch to know the time and not to waste time.

-Minutes are harder to count correctly than hours. The sense of time does not seem to work well with smaller measures of time.

-We used to play 'guess how many minutes'. It went like this: you told a story or joke and then you had to tell how long it took to tell it. Correct answers were very rare.

-Many people don't have any sense of time. I don't have. My sense of time is my watch or the clock at the wall.

7. CAN YOU REPRESENT TIME GRAPHICALLY? Please try.

Students, to the author's surprise, represented time in several different ways, of which the line with the marks for present, past and future was the most used, as a form of expressing time.

There were two students who, instead of drawing any kind of pictures, described the well-known experiment with seeds planted in cotton as their perception of the passing of time. One of them compared the growing of the seed from planting to death as a good picture of time; the other used the same image but went into a different direction for his plant did not die--it yielded seeds that perpetuated life and time, as well.

A female student drew a series of interlocked series of circles and made some feminist commentaries about time applied to women at the mercy of a male-oriented world.

From the 82 students in the study, 60 represented time as some form of never-ending line moving always forward and this forward motion was signalled by the use of arrows.

H e r e a r e s o m e o f t h e i r r e p r e s e n t a t i o n s :

8. CAN YOU DRAW A CONCEPT MAP FOR TIME AND TENSE ?

Students of English VIII, in what officially constitutes their last semester of English language and literature, were dealing with concept maps for structuring their knowledge linked to the reading of Shakespeare's plays during this semester (March-July 1993). Furthermore, they had studied the use of verb tenses according to Quirk et al. (1972) and to Celce-Murcia and Larsen-Freeman (1983) and were familiar to the Bull framework (1960) and, thus, had worked more deeply into the construction and sharing of meanings about concepts related to the concepts of time and tense.

Before working with concept maps, they were relying on their memory to apply the right set of rules to the specific situation of verb tense use. They could not understand why the "line of time" could move to other directions ; or why the characters Hamlet, Ophelia, Romeo, Macbeth used verb forms and tenses they way they did; or how to write, as Shakespeare did, displaced from the space-time of his characters, aiming at an audience who had to understand what was going on on stage in order to experience the feelings and emotions that the actors were trying to communicate. These students analyzed instances of the characters'speech in terms of where the characters were, in time-space, this relativity in time-space connected to writer, audience, and the students themselves as readers. Each map, presented here was done at least thrice. The last one (Fig. 12) is a collective-map for the subject of time & tense.

RESEARCH FINDINGS

The initial questions raised about the reasons why students have so many problems concerning the use of verb tenses in general, and of the perfective aspects of tenses in particular, seem to have as possible answers, according to what was expressed by them in opinions, answers and drawings, the following :

a. Students are led by teachers to memorization of rules, without any connection to what they already have in their cognitive structure. That is, verbs are taught as fixed rules with examples and applied to an artificially designed use, in which the element 'choice' is not considered.

b. Verbs are studied without any link to time-space, so that facts and patterns of verb tenses are completely outside the framework of context, content, narrator/writer, listener /reader, author.

c. In general, teachers and students see time as a line that cannot move in any other direction but forwards and, because of this, they cannot have feelings and thoughts about the perfective aspects, where motion in other directions in this 'line'--circular, spiral, in overlapping circles--is crucial in order to grasp the meaning of relativity of time-space in a text.

d. Student's misconceptions of time-space/relativity determine most of their problems concerning an adequate exercise of choice linked to verb tenses in use and in motion within a real environment with real people and situations. Textbooks* of EFL seldom, if they do, talk about these concepts because there seems to be some prejudice among people in humanities against science, in general.

e. When students and teachers construct and organize their knowledge, not only about tenses, but about time-space/relativity as well, they apparently will not have so many misconceptions about verb tenses and their relationships to these physical concepts.

f. Students of English VIII, although at the beginning of the semester were always tempted to resort to memorization as a way to deal facts, patterns and choices concerning verbs, seemed to have learned the use of verb tenses more meaningfully through the use of concept maps as instructional tools to facilitate the sharing of meanings and a change in the meaning of their experience with verb tenses.

* The textbooks considered here have to do with those used by elementary and secondary school teachers in the area where observations were made by student-teachers.

CONCLUDING REMARKS

These eighty-two students were highly cooperative with the experiment, and never denied their participation in the study. The students of languages and of the secretarial course (32) were puzzled when there was a question regarding some linkage with science. Some of them even asked why the teacher / author was so interested in a concept that was kind of alien to them, once they stated that they were just used to literary and linguistic terminology, because they felt that they already knew enough about time-space. And, besides, relativity was not anything that could qualify as either literary or artistic or linguistic: they wanted to stay away from Einstein, they said, for they had more than their fair share of troubles and complexity with Chomsky, van Dijk, Shakespeare, and they did not need what they called "the supercomplexity of Einstein". Perhaps that kind of prejudice people from the humanities and the arts hold against science interferes negatively in their language teaching and learning, for they seem not to be willing to work with concepts which they label as outsiders to the language and art fields.

This study will continue next semester with a smaller group of students in their last semesters of the language course, who will expand the network of concepts of time-space/relativity and verb tenses and who will apply their knowledge to elementary school students of EFL. This will be an attempt to change the meaning of experience in this subject, and to help students start from their language misconceptions towards the meaningful learning of relevant concepts.

In her concluding remarks, the author would like to quote Richard P. Feynman in his book *What do you care what other people think ?* (p.11)

I have a friend who's an artist, and he sometimes takes a view which I don't agree with. He'll hold up a flower and say, "Look how beautiful it is," and I'll agree. But then he'll say, "I, as an artist can see how beautiful a flower is. But you as a scientist, take it apart and it becomes dull." I think he's kind of nutty. (...) I can appreciate the beauty of a flower. But at the same time, I see much more in the flower than he sees. I can imagine the cells inside, which also have a beauty. There's beauty not just at the dimension of a centimeter; there's also beauty at a smaller dimension.

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Time

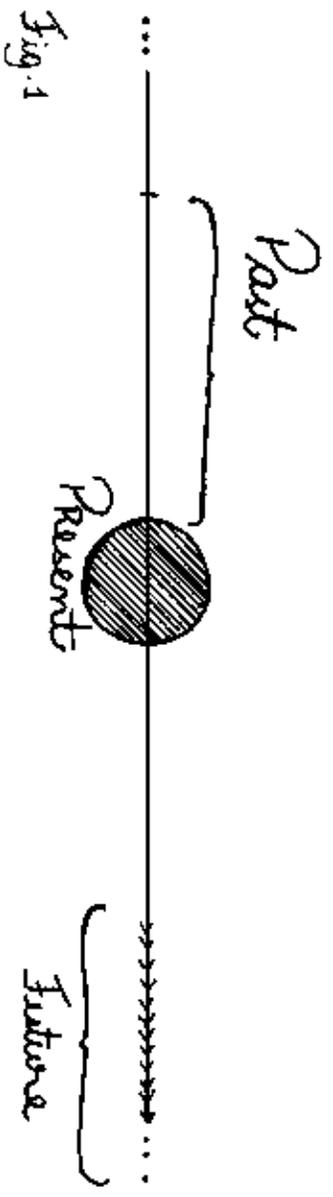
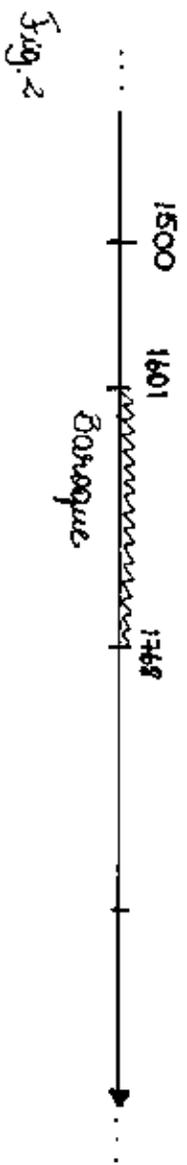
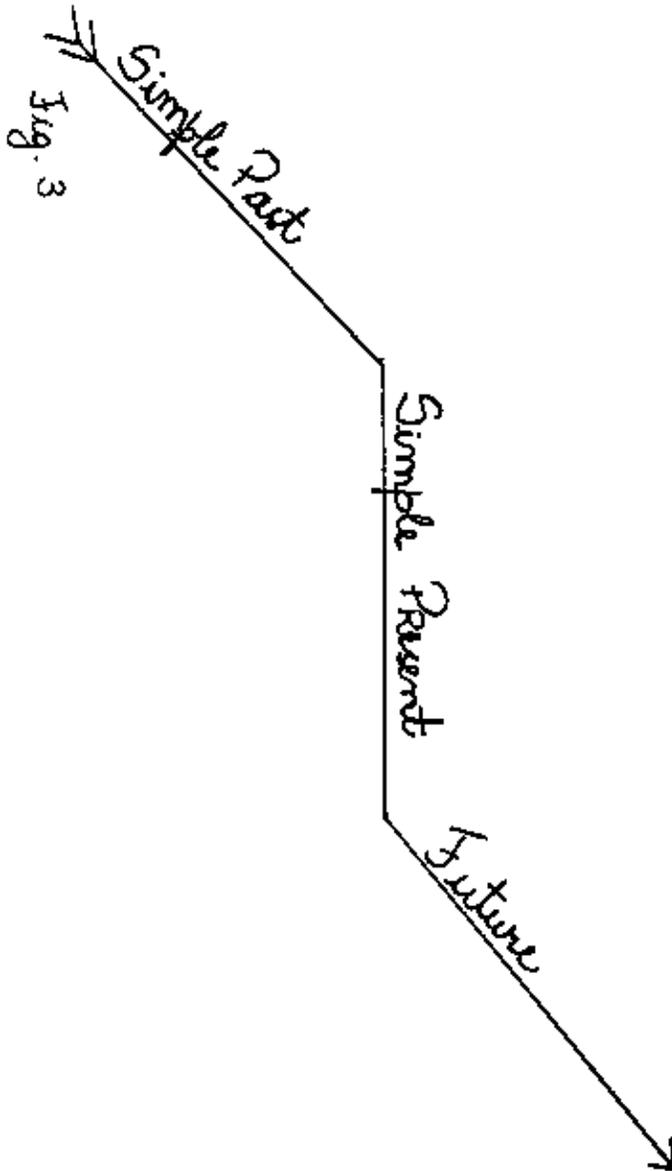


Fig. 1

Time



Time



Time

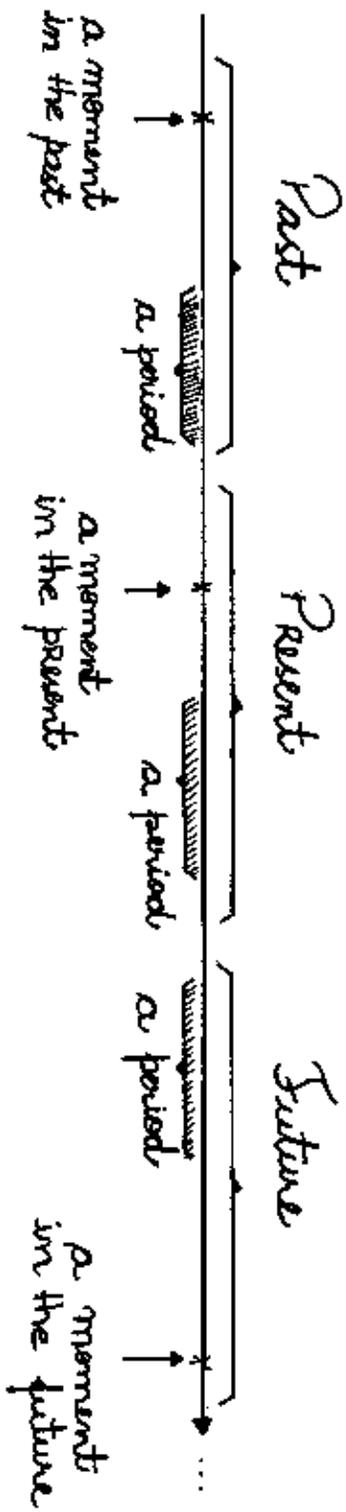


Fig. A

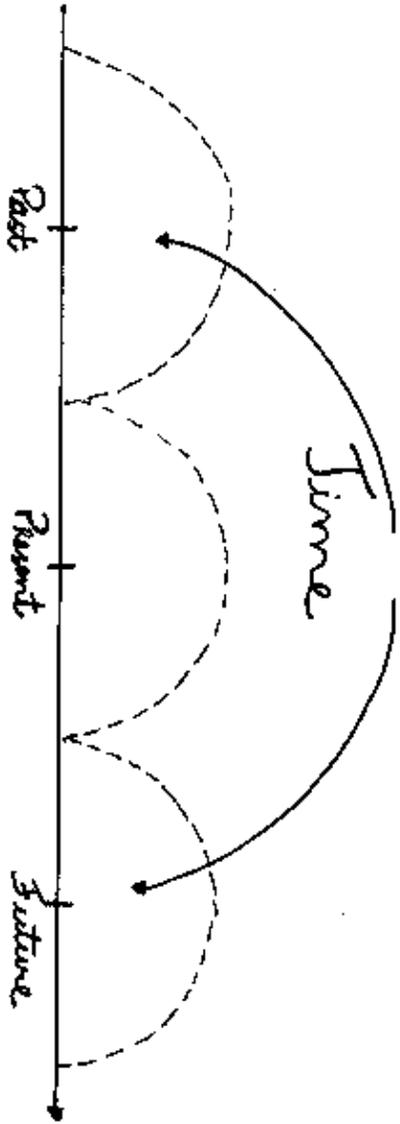
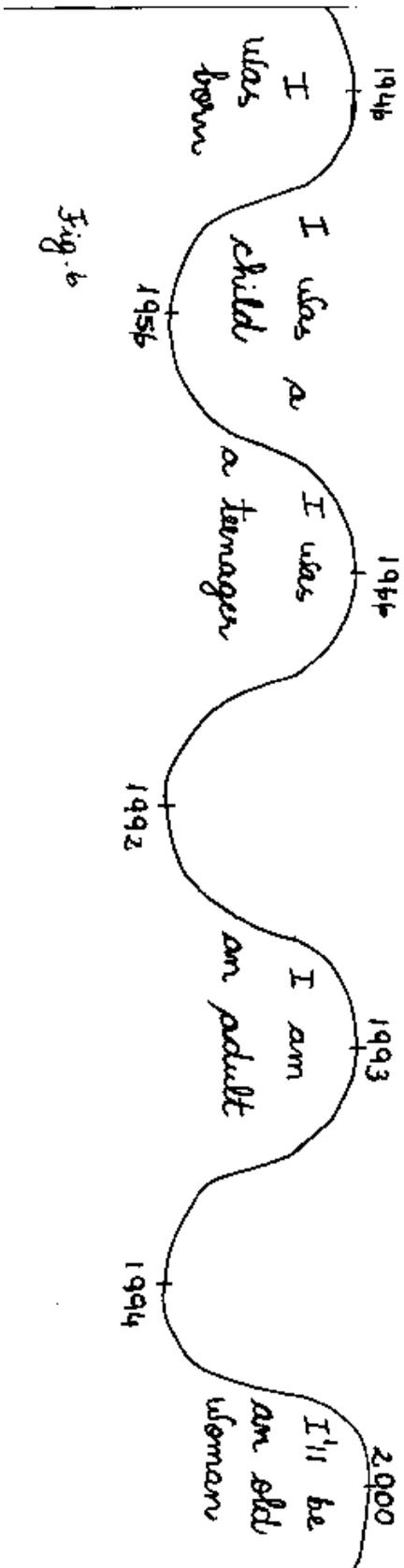


Fig. 5

Time



Time

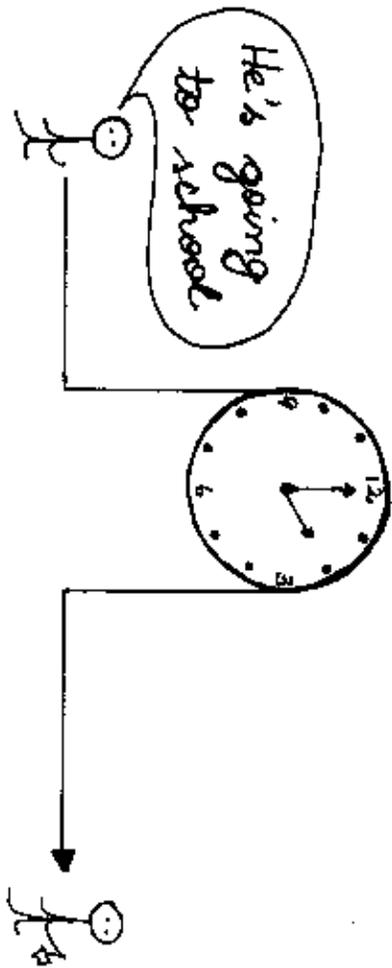


Fig. 8

Time

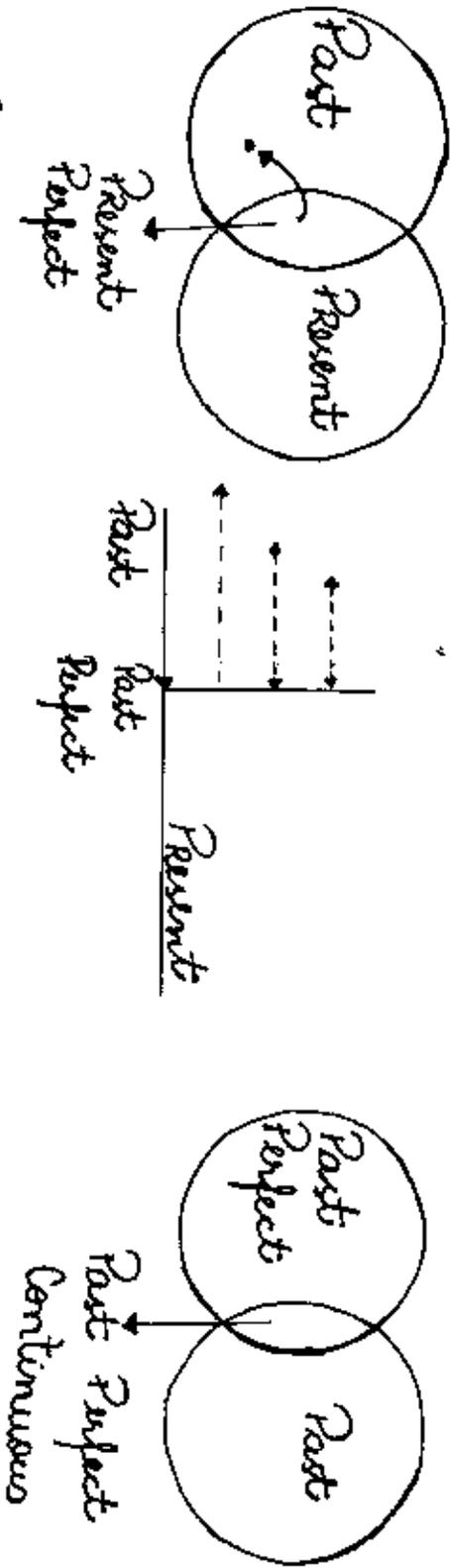


Fig. 9

A Concept Map

Time and Relativity

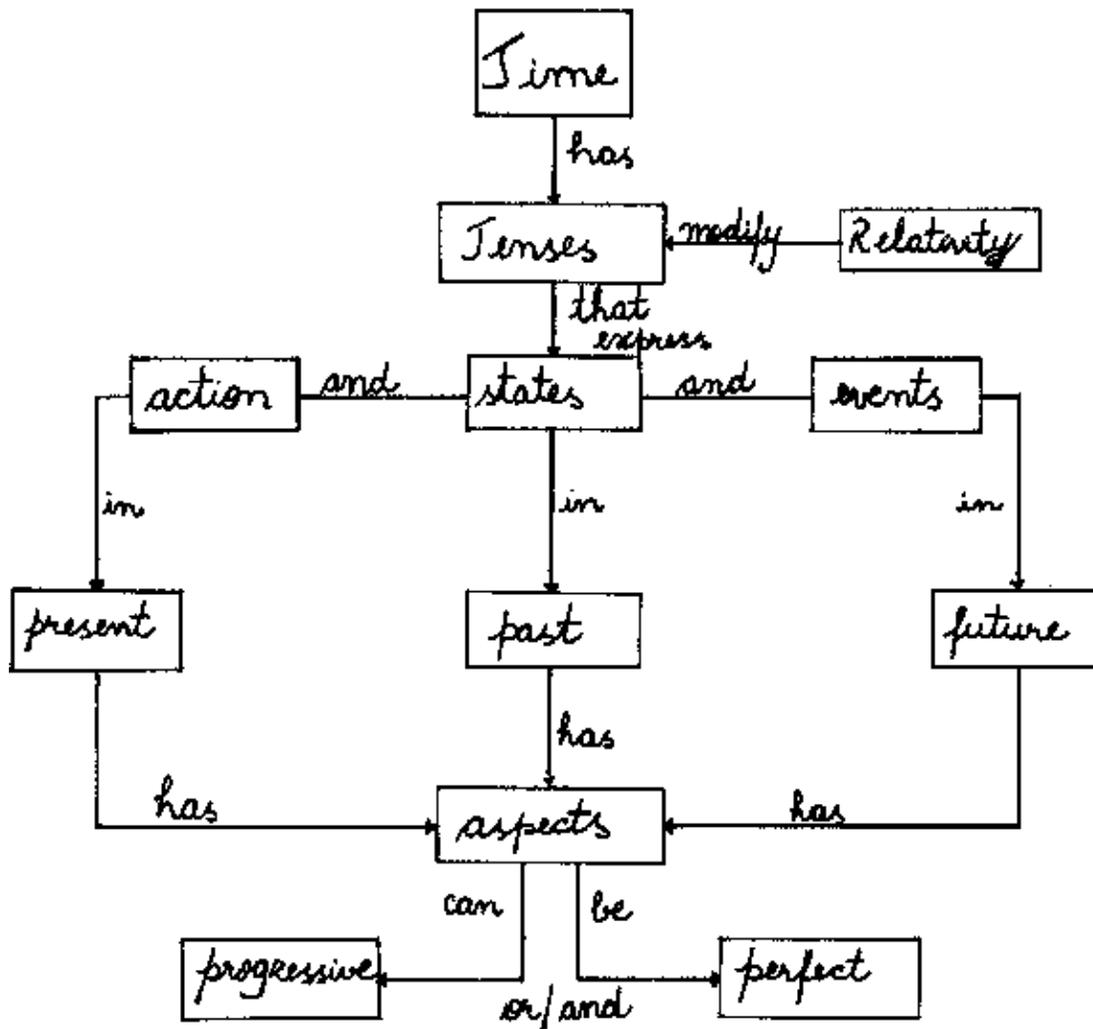


Fig 10

Time and Relativity in the use of tenses

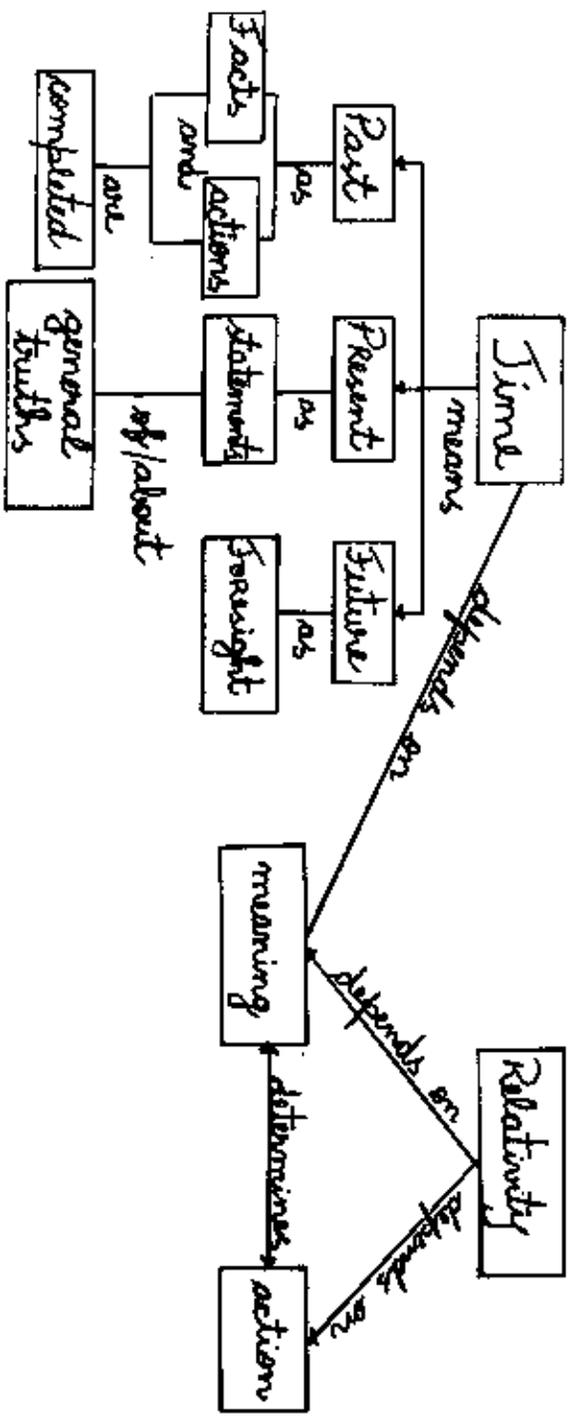


Fig. 11

