# Studies of Time-Use: Problems and Prospects

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Studies of time-use are rather commonplace today. Central statistical bureaus in many countries have adopted the technique and are contemplating regular surveys. The idea that measurements of time and time-allocations can be used as general indicators of living conditions is taken up by many. Serious schemes have been developed that propose exchanging the well-known 'money-budget' for 'time-budgets'. Development programs for 'social indicators' all incorporate various measures based on time and time-use.

It is fair to say, however, that this field of inquiry is still in its infancy. It has proved possible to obtain data on people's daily use of time with sufficient reliability, but there is an alarming lack of reports on the methodological difficulties involved. The studies performed are typically empirical, fact-finding surveys with little attention given to the theoretical issues involved. The dominant instrument of data-gathering is the '24-hour time diary'. The various studies follow a general pattern which makes comparison possible, but there is a great need for further development of this research instrument. This is readily understood by those who have ventured to use it. The traditional time-use studies are very expensive and require great inputs of both time and money.

This paper will not deal with all the problems mentioned. First the concrete reality at hand will be dealt with and thereafter some major methodological problems illuminated. A framework for classifying activities is proposed and, finally, indication is given of how the 'diary approach' can possibly be adapted for inclusion in interview surveys.

### The reality at hand: the stream of behavior

Activity is a concept so much used that one might expect that definitions and clarifications could be dispensed with. Things for which we have concepts, however, are not necessarily real and simple, especially with respect to activities. The reality to which this concept refers is actually very complex and requires clarification in a series of steps. First we will have to clear away some conceptual debris and, in order to do so, certain almost banal statements are needed.

What is an activity? First it should be noted that the reality at hand is a *stream of behavior*; an uninterrupted stream in case sleep is considered an activity [1]. Time is the basic dimension and we speak of activities only in so far as we can locate points in time that constitute ends or beginnings of these behavior units. *Activities are segments of time.*

Secondly, activities are rather complex entities. They can be specified further and broken up into smaller and more basic elements. The smallest unit is constituted by the *act*. A description of an act is not meaningful unless reference is given both to the behaving individual and his/her immediate environment. An act implies and is *an interaction* of humans and their environment [2]. Acts combine in sequences that are interrelated and build together towards some final act or end state. Activities encompass one or more such interrelated sequences. As activities are broken down into elements, descriptions of these become meaningless the nearer one gets to the smallest unit. We cannot longer with any certainty see or imagine the purpose of the acts. For the observer this is the practical criteria for assessing the maximum degree of detail in a record of activities.

Thirdly, we also encounter problems if we try to combine too many elements into 'one' activity. Again common sense and the concepts in the language set the limits. We are however left with an area of choice. The activities 'having breakfast at home with the family' and 'going to the theatre with a friend' can both be broken down into smaller elements and we could possibly impute a meaning or purpose to each. Both are examples of the level of generality that will fit into an analysis of daily activities. As in daily life, we will have to rely in the research on common-sense criteria for distinguishing between activities. Studies on time-use based on the time-diary technique will typically result in activity records with about 30 activities throughout the day. When greater detail is asked for it is easily obtained. It is difficult, however, to assess the level of generality other than in a quantitative way. One solution to this problem seems to be to move from the analysis of the individual to a study and description of the territories that the individuals inhabit. These can be studied with respect to the kinds of social situations (behavior settings) that exist and operate throughout the day. The sequence of individual activities can be seen as a pattern of participation (visits) in these settings [3].

Fourthly, assuming that the problems concerning identification of single activities can be solved, the 'sequence' of daily activities of an individual is not always orderly and simple. Interruptions will occur and activities can literally take place 'in the middle' of other activities. Instead of following each other, activities often overlap each other. This is so especially if we are working with very detailed records. At the same time we have to deal with the occurrence of simultaneous activities. For example, one often listens to the radio and music while doing other things at the same time. In most cases, however, the main or primary activity is easily identified. Unless one is specially interested in activities that can be combined with others this constitutes a minor problem.

Fifthly, verbal behavior is very much part of most kinds of activity. Concrete and observable behavior, however, must always be given priority when classifying

the behavioral unit. The content of the discussion at the breakfast table, whether foreign affairs or the behavior of the children, is most often irrelevant for the classification.

The points put forward here should be sufficient to show the complexity of the phenomena we aim to study and describe. By necessity we must use strong 'filters' to extract the information that tells us about the basic structure of individuals' daily existence.

Studies of time-use can be employed with a variety of specific interests in mind. In many studies no one particular kind of activity is singled out; all are of interest. In order to deal with this complex of problems it is easier for me to argue, and for the reader to read, if we give a category of activities special attention. In this presentation I will therefore pay particular attention to leisure-time activities.

## The point of view

The statements above refer to activities in general. We will now move on to the particular activities that are our central concern: leisure-time activities. A complete review of all proposed definitions of leisure will not be given, only some recurrent themes in theories of leisure.

Leisure is often said to be the counterpart of work. At the same time there is common agreement that a simple dichotomy of work and leisure, or non-work, is not a very useful starting point for classification. Some extra criteria are needed to isolate leisure. Two such criteria often referred to in the literature both imply the individual's own 'experience'.

The first is freedom of choice; the freedom to do or not to do an activity. This aspect is central in many definitions of leisure. We will deal with this later as the constraints upon individuals in their daily activities will be worked into our system of classification.

The second concerns emotional aspects; in order to be categorized as leisure an activity must be of an 'expressive' kind, giving immediate need-satisfaction as distinct from instrumental activities. Some authors go so far as to say that leisure is the counterpart of boredom – in short, an emotional state.

As we, the observers, are part of the same culture as the actors in question, we are in a good position to be able to guess correctly how certain activities are experienced and evaluated by the actors themselves. This has both positive and negative consequences. It facilitates the observations and often makes the recording simple. At the same time, however, it confuses the issue and causes people to overlook the distinction between the view from the inside and the view from the outside [4].

The problem at hand can best be described by using examples from anthropology. The anthropologist visiting a primitive tribe can always describe a tribal dance and even record details on film and on tape. He will not be able to classify it, however, or be able to decide whether it represents 'entertainment' or 'worship' unless he asks the natives themselves. In short, he needs informants who can spell out the meanings of activities within the culture of the tribe.

The anthropologist does not have much choice. He must resort to the 'emic' approach, the view from the inside, in order to obtain communicable information. We, however, when studying our own society, can choose between the 'emic' and the 'etic' approaches, the latter being the view from the outside. The concepts of emic and etic are taken from linguistics (phonemic vs. phonetic), and refer in that context to meaning vs. structure [5].

What, then, is the correct choice to make when studying time-use. We must first specify the aim of the studies beyond the goal of accumulating knowledge. Studies of time-use can be used for a multitude of purposes; one I find of particular interest is to utilize the information obtained for establishing 'social indicators'. Information on time-use can be seen as a very direct method of describing people's daily existence and also be immediately relevant for the individual well-being.

In studies that aim to establish social indicators the right choice would be to go for structure and not for meaning. Social indicators should refer to concrete manifestations of societal conditions. They should be chosen so that they are relevant for individual well-being and, furthermore, should be as 'close' as possible to this personal well-being in the way that a change in the societal conditions shall relatively directly lead to a change in well-being. We are not by our indicators measuring well-being itself.

It is also only by taking the view from the outside that we are able to establish clear-cut criteria and instructions for coding and classifying activities. Such instructions are written for the research worker and should secure a standardized handling of the *data*. Please note that we are classifying a set of data. The concrete reality is in a real sense transformed into data before classification takes place. Before discussing the system of classification we will discuss the kinds of transformation that take place during the research process.

## On the transformation of reality into data

Research is characterized by attempts to reduce the amount of information that concrete reality presents. Building theory in the social sciences implies drastic reductions of such 'information'. As we aim here to deal with the total range of daily activities, we will likewise be confronted with the need for 'information-reduction' from the very start of the research. We will deal with this problem in three steps, corresponding to three phases in the research process. At each of these phases, certain *filters* will be applied.

## First set of filters: gathering the data

Our system for classifying activities will be applied to a set of records or data. It is not applied to reality itself. The data-gathering techniques represent the first main filter in the transformation process.

In line with the argument above on the priority of the view from the outside, it follows that the proper methods for gathering our data would be by observational

methods. It is obvious, however, that direct observation is not very practical in our context. We are aiming for large and representative samples and will have to resort to some version of questionnaire/interview survey technique. This does not necessarily mean that we are moving to an emic approach. What we are doing is asking the respondents to act as our observers and report on themselves as an observer might have done.

To be able to 'look' upon ourselves is considered by some to be a prime criterion of humanity; we capitalize on this human ability. It is correct to say, however, that in this fashion we only obtain 'quasi-observational' records. Attitudes in a broad sense will necessarily influence the reporting.

There are two different approaches which can be used for obtaining information on daily activities: the *time diary* and the *activity checklist*. The first aims at describing the behavior stream throughout the day in sufficient detail to obtain measures of the duration of activities. By the activity checklist we, in theory, can get information on all kinds of activities. This, however, is hardly practical as the technique calls for a specification of each in the questionnaire. Furthermore, it is not practical to obtain measures of duration by this technique. Questions in the activity checklist might read: 'Over the last $X$ days/weeks/months, have you participated in activity $Y$? If 'yes', how many times?' This technique gives good information on the frequency of participation, and being able to ask about relatively long time intervals makes it possible to obtain information on infrequent activities. The activity checklist is obviously a much stronger filter than the time diary.

One is able by the time diary to obtain continuous records of activities. Intuitively this should give 'better' data than the activity checklist, but the diary form is also a strong filter in its own way. Actually, before we deal with methodological problems, we should have dealt in greater detail with the specific aspects of leisure we will study beyond the total amount of leisure. Choice of method should always be made after clarification of the problem and aim of the research. To reach some of our aims, however, we will need coverage of the full daily cycle of activities and we will concentrate on the methodology for this in this easay. To obtain measures to illuminate special aspects of leisure we might need other methods in addition to the time diary.

In constructing the time diary many choices will have to be made on details. A major choice has to be made between *continuous recording* vs. *fixed time points*. In the former case the respondent himself indicates the times one activity ends and another starts. He is completely free to determine them. In using the fixed time point technique we ask what activity was going on at specific points in time, or we ask for the main activity going on within specific time intervals throughout the day.

Distributions for durations of activities turn out very similar irrespective of which of these techniques is used. The fixed time points, however, must be at intervals of not longer than 30 minutes. Activities of short duration will necessarily go unrecorded more often when we use the fixed time point approach.

The common-sense names of activities refer first of all to the actor himself and

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his concrete behavior – to *what* is being done. A description of an activity is not completely meaningful, however, unless reference is given – directly or indirectly – to where the activity took place and to possible other persons present (Where? With whom?). The dimensions of 'locality' and 'social interaction' are integral parts of the activity description, but at the same time they can also be studied independently and isolated from the other dimensions.

In most studies of time-use, information on locality and social interaction is 'added' to information on the activity itself. The questions in the time diary most often follow this sequence: what, where, with whom. Studies on the factors of greatest importance with respect to initiation and ending of activities, however, show that locality is a prime factor. Social interaction also. A better sequence of questions therefore might be: Where were you? With whom? and lastly: What did you do?

In studies in which diaries are used, attempts are made to record simultaneous activities by questions like: Did you do anything else at the same time? The concept of primary and secondary activity is in itself a dubious one. The need for distinguishing between them is often a result of using too crude a system of classification, and we become victims of our own technology. The secondary activities we feel are necessary to record are aspects of the activities that are left out as the primary ones are recorded.

Finally, then, for what lengths of time do we need to observe an individual in order to assess his pattern of time-use? Research and theory in this field is not fully developed and we still need coverage of the full daily cycle as a minimum. Certain theories stress the interdependence of time-use on weekdays and weekends in the way that the tendency to 'take out' relatively much time in leisure at weekends is balanced by an increase in time at work on weekdays. This would call for individual records covering both weekdays and weekends. It does not mean that we need to have a seven-day record for each individual. Some researchers have done this, but have found it presents severe practical problems. It is a big order for both the respondent and the researcher. So much information is generated that the latter can be forced to sample among his own data for the analysis.

Experience from various studies points to the 'yesterday' interview as the most practical approach for obtaining data [6]. Organization of the fieldwork must be done so that every day of the week is covered. There are of course seasonal variations in the pattern of time-use. These variations, however, have been over-rated, as recent studies show. If a survey is performed in October–November or March–April, representative data are obtainable.

To sum up at this point. Social indicators based on time-use necessarily imply measurements of durations of activities. The time diary is therefore a better instrument than the activity checklist. The level of generality is to some extent dependent upon the instructions given and the layout of the diary. The format designed to catch about 30 daily activities will be sufficient. Special instructions in order to better identify leisure-time activities can be utilized. In any case the records obtained will be strongly filtered information.

### Second set of filters: coding the data

A separate chapter presents classificatory systems for daily activities. At this point in the presentation we only want to underline the filtering effect of this operation, the main effect having to do with reduction of the number of activities.

### Third set of filters: analysis and reporting

The final set of filters is applied in the analysis and reporting phase. The sheer bulk of data generated in any study of time-use requires efficient and powerful tools of analysis to avoid literal drowning in the data.

The amount of data in itself isn't the only problem, equally problematic is the number of possible indexes one can construct from activity records. The many alternative indexes are all meaningful; the problems are solved by intelligent choices.

The first choice has to do with the *basic time period*. If we have time diary data we could in fact define any period of the day as our basic unit. With attention directed toward leisure the period from 3 p.m. to 9 p.m. could be taken as the most relevant. International comparisons would be misleading, however, as there are distinct differences in the location of work periods, so any basic period shorter than from 6 a.m. to 12 p.m. would be problematic. To cut out six hours of the night is hardly any saving at all; we might as well use the full 24-hour day as our basic unit. This is the unit used in most studies of time-use.

Secondly, in modern industrialized countries we must take special care to record activities during the weekends – on Saturdays and Sundays. The use of time on these two days is actually so different that ideally they should be treated separately. To have indicator-measures for three types of days, however, is just not practical. We will have to treat the two-day weekend as one unit of time.

In some instances we might want to compute averages for the seven-day week, but we should always show corresponding figures for weekends and weekdays. Especially with respect to leisure there is reason to believe that with the introduction of the five-day work-week, so much time is invested in leisure at weekends that individuals will have to balance it out with a reduction of time for leisure on workdays. In short, differences between weekends and weekdays might be used as indicators.

The data from time diaries are typically coded so that the sequences of activities are preserved. In other words, the location of leisure-time activities with respect to time of day is retained. It might be argued that a pattern where leisure and other activities are mixed throughout the day is a 'better' arrangement than a segregated pattern where for example all leisure is assembled late at night. Too little is known from concrete research on such problems to warrant the inclusion of measures of this kind. In other words, we expect the information on sequence to be given second priority.

The next choice is rather complicated because the alternatives are all meaningful and illuminate different aspects of time-use patterns. Given that we have chosen

our basic time period (the 24-hour day, 7-day week) and have access to a coded set of data, we have four aspects that can be used for constructing measures or indicators for each activity.

1. Frequency ($F$), the number of times an individual, or group, participates in activity $X$ during the basic time period.
2. Duration ($D$), the total amount of time (in minutes) that an individual, or group, spends on activity $X$ during the basic time period.
3. Actors ($N_a$), the number of individuals in any selected group, or total, that have participated in activity $X$ during the basic time period.
4. Number of individuals ($N$) for any selected subgroup or total sample.

On the basis of these four aspects it is possible to construct six indexes as shown below. All averages refer to the basic time period [7].

Some of these measures are highly correlated and for no single study are all needed. When dealing with general activity categories like Leisure, participation will be close to 100%. This cuts down the number of measures to three. Of these, measure No. 2 will be the central one. Measure Nos. 4 and 1 both reflect the degree of segregation of leisure. As discussed above, this aspect needs more research before it can be used as a social indicator.

| | Frequency ($F$) | Number ($N$) | Actors ($N_a$) |
|---|---|---|---|
| Duration (D) | $D/F$ [1] Average duration of single activity | $D/N$ [2] Average duration of activity for total group | $D/N_a$ [3] Average duration of activity for actors |
| Frequency (F) | | $F/N$ [4] Average occurrence of activity for total group | $F/N_a$ [5] Average occurrence of activity for actors |
| Number (N) | | | $N_a/N$ [6] Participation: Number of actors in group |

## On classifying daily activities

There are hardly any developed theories of human behavior that are of much use in establishing classificatory systems of daily activities. That is, few theories provide possibilities for deriving classificatory principles. At the same time, the classifi-

catory systems used in various studies of time-use are remarkably similar. There is an underlying consensus on how to classify. People agree on which activities are alike and those which are different.

It was mentioned above that in the literature the freedom of choice is often referred to as an important aspect of leisure. In order that an activity be considered as leisure the individual must be free to do or not to do the activity. Freedom of choice is of relevance for more than leisure. It is primarily this aspect that is of help in understanding and interpreting individual patterns of time-use.

There are few activities for which it can be said that there is full freedom of choice, but we must distinguish between different kinds of constraints. Some, actually quite many, activities are place-bound while others are constrained time-wise. Some activity for which there is generally great freedom of choice can on a particular day be firmly bound for example by having been pre-planned. This brings in the time perspective. We must specify the time perspective so that the constraints can be evaluated. Decisions at the spur of the moment do happen, but we still say that there is freedom of choice even if we cannot change at a moment's notice. Quite a few of our daily activities are consequences of other earlier acts. There will be freedom of choice with respect to some of these consequential acts, but here the time perspective is long. If we are dealing with a short time perspective and for example try to assess the degree of choice at one particular day, we will actually find a small degree of freedom. Even if you can choose to do or not to do a particular leisure-time activity it is clear that when necessary, contracted and committed time is taken out, there is not much elbow-room left time-wise. Studies in which the people have been asked about how much freedom of choice they felt they had, in terms of both time and space, also show this. Not many of the leisure-time activities participated in in one particular day could actually be exchanged with others at all [8].

If we apply a longer time perspective, however, the concept of choice becomes very relevant. As Cullen puts it, 'The sorts of mental process which characterize and make intelligent the typical working day are quite different from the sorts which make intelligible the enduring framework in which the day occurs' [9]. Choice is part of our daily existence to only a limited degree and the time perspective must be specified before the question of choice is meaningful. Choice in itself turns out not to be a good criterion for identifying leisure-time activities.

### The four kinds of time

We propose here a set of broad categories of daily activities which we label 'the four kinds of time' and, in describing the thinking behind it, we will first of all refer to freedom of choice and constraints. We have indicated that these phenomena can differ in the perspectives of degree, kind and time. We will try to exemplify this and make it more concrete. First, the kinds of time: 1. Necessary Time; 2. Contracted Time; 3. Committed Time; 4. Free Time.

The numbers attached indicate an order of priority. Time is taken out in this

order and the daily amount of for example Free Time is dependent first of all on how much Committed Time on the same day can be cut down. The first two kinds of time are very stable amounts, the first cannot be changed, the second only by a new explicit contract.

*Necessary Time* refers to the time needed to satisfy the basic physiological needs. It encompasses sleep (at night as well as afternoon naps), meals and personal health and hygiene. Sex most definitely belongs here, but this is seldom encountered in time diaries. There is remarkable stability in the amount of time taken out for these activities across nations.

Our argument is that time for these activities takes first priority. We do not see much freedom of choice in these matters. The time perspective is very short; we all sleep and eat each day at regular intervals.

*Contracted Time* refers to regular paid work. The self-employed will of course be treated in the same way as the employed and the criterion will be the work contract, which typically involves money. In the modern western world most people travel to work each day. The time for travel as well as waiting time is added to the time of work and included in the contracted time.

The degree of freedom of choice associated with work can vary considerably from person to person. In any case, the time perspective will be rather long. Some change work rather freely, but if at the same time a person has invested money in associated affairs, like the farmer, he is left with little choice.

Another set of activities that can be considered as contracted time is participation in regular schools. There are however reasons for also including educational activities with free time. We will comment upon this below. We put contracted time as second priority. These time periods are typically rather long and structure and influence the other daily activities to a great extent.

*Committed Time* covers a great variety of activities, all with certain traits in common. First, we are often committed to do certain activities simply because earlier we chose to do certain things, e.g. get married, buy a house, have children, buy a car and perhaps even a boat. Acts like these all have consequences in terms of committing large parts of our time.

The activities here are primarily those associated with the home or dwelling and different kinds of acquired equipment. All housework falls into this category. Next comes activities that concern persons within the household. Help, care and assistance of all kinds, particularly pertaining to the children. Thirdly, activities under the heading of shopping and providing daily and durable goods.

It should be noted that activities that come under the heading committed time all have the character of work, although not paid. Instead of doing it yourself, however, you can often get other persons to do it for pay. Activities under the label of committed time constitute the domain for the service industry.

An individual would not consider paying another person to visit the theatre for him or to perform his own hobby. The existence of a service industry for a given activity can therefore be of help in deciding if an activity should be considered belonging in the category of committed time.

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There is a certain degree of freedom concerning these activities, but usually it is just a postponement of time. Not doing these activities is more problematic unless there are other persons in the household to whom the tasks can be transferred. The time perspective is usually short.

When the time for necessary, contracted and committed activities is removed we are left with *Free Time*. Seen in this way it becomes clear that Work and Leisure are not the two major categories in conflict. Rather, the dividing line between committed time and free time becomes the critical one. It is obvious also that this line is problematic and difficult to draw in a clear-cut fashion. It is easy to find examples of activities, say tending the garden, which some say are committed time while others say are leisure. There will be a whole series of activities that we, the observers, will disagree about. As we have concluded that we cannot resort to any extra questions during the interviewing and for example find out if a certain activity is a hobby or not, we have to search for other criteria.

## Towards a theory

We mentioned earlier that we can find great similarities between the classification systems used in different studies. There have been few attempts to establish broad categories in the systematic way we have attempted here. The names we have used for the four kinds of time resemble those Claude Javeau used in his report on time-use in Belgium [10] (*Le temps obligé, le temps contraint, le temps libre, le temps neccessité*). He tried to simplify the system of categories used in the multinational study. This imposed certain limitations. On some other points unexpected combinations were made, like combining 'work in the house' with 'regular work', which produces dissimilarities in our system.

In another study in Belgium, also based on data from the multinational study, France Govaerts [11] presents a classificatory system that corresponds very closely to our system. She uses the following terms: occupations professionelles (2), occupations domestique (3), besoins physiologiques (1), and temps libre (4). The numbers correspond to our four kinds of time. Govaerts proposes, as we do, that travel time should be added to the activity with which it is associated.

On one point, however, Govaerts's classification differs from ours: all activities connected with education are put under the heading 'temps libre'.

V. D. Patruschev, a leading Russian scientist in this field, has proposed a general scheme which more or less corresponds with our four kinds of time. His point of departure is Marxist theory and his system can be portrayed as in the diagram below [12].

The numbers correspond to our four kinds of time. The two categories of 'non-productive' activities refer to things like travel, waiting, etc. In many other studies we also find that travel time is isolated and classified separately. We will also comment upon this below.

The scheme of Patruschev is a macro-sociological one. It is interesting to see

| Time for | | [2]Production |
| --- | --- | --- |
| Use and consumption of physical and spiritual work force | Productive | |
| | | [3]Work at home |
| | Non-productive | Necessary for activities above |
| Time for | | [1]Satisfaction of physiological needs |
| Reproduction and restitution of work force and development of physical and spiritual abilities | Productive | |
| | | Satisfaction of [4]physical, intellectual and social needs |
| | Non-productive | Necessary for activites above |

how this corresponds to a scheme which has been tried and established with reference to socio-psychological concepts. The present author earlier constructed one which by the way resulted in the same four kinds of time. The reasoning is as follows.

We earlier discussed and stressed the importance of the view from the outside. A system of classification can be based on the same point of view. In establishing the categories, however, the observer makes certain assumptions about experience and in this way form the basis for parts of the classificatory system.

The first and major classificatory dimension is based on such an assumption. The dimension is usually referred to by the pair of concepts 'instrumental vs. expressive'. What is assumed here is that activities have a varying degree of immediacy when it comes to satisfying the needs of the individual. Some activities are means (instruments) in relation to other goals. Others are sought because they themselves satisfy our needs. They are labeled expressive.

Under the heading 'expressive' activities we will first place those that satisfy the fundamental basic needs: sleep, nourishment, sex, hygiene. Although the distinction is debatable, activities that satisfy 'acquired' needs are in the second subgroup under the heading expressive activities. This covers all what is normally considered leisure-time activities. This aspect, that the activity in itself is gratifying, is seen by many as a necessary condition that must be fulfilled before the activity can be labeled leisure.

Under the main heading 'instrumental' activities we find a multitude of activities. The first subgroup consists of paid work and formal education. The second group of activities is comprised of all we have already described as belonging to

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| | | |
|---|---|---|
| | Activities related to physiological needs: sleep, meals, hygiene | [1] Necessary time |
| Expressive activities | | |
| | Activities related to acquired needs: all kinds of leisure | [4] Free time |
| | Paid work and formal education | [2] Contracted time |
| Instrumental activities | | |
| | Unpaid work: activities related to the house, dwelling and household, shopping | [3] Committed time |

committed time. At this point the reasoning falters as these activities cannot be said to be instrumental in the usual sense of the word.

We have used relatively much space explaining the reasoning behind these broad categories. As such discussions are seldom presented we felt it was necessary. We have not presented any new theories, but hopefully a logical set of viewpoints.

There are three outstanding issues that need some extra comment. They refer to time for travel, educational acitivites and child care.

Our principal view is that travel time should be added to the activity with which it is associated. A detailed record of an individual's movements in space will show that the dwelling represents 'home base' in a real sense. Travel time both 'out from' and 'back to' the dwelling should therefore be added to the time of the activity away from home. In some cases two or more activities take place during one journey. This presents no practical problem as the coding instruction will be such that travel time should be added to the activity taking place immediately after travelling is finished, with one exception; if home is the goal of the travel the travel

time should be added to the activity which took place immediately before travel commenced.

Generally speaking, however, time spent on travel can be seen as a social indicator in its own right. It reflects the fit between the location of home and the location of the work-place, service institutions, etc. In line with this, time used on travel could be seen as an element of committed time where we have placed other activities that are 'consequences' of different acts (choice of dwelling).

We retain our principal view, however, and argue that travel time should be counted along with the associated activity. We recognize the alternative of recording it as committed time, and finally point to the possibility of using it alone as an indicator.

Our second problem deals with *educational activities*. The principal view is clear, we intend to classify participation in regular schools along with paid work as clear-cut instrumental activities. Various kinds of adult education will be placed under leisure and free time. The problem here stems from the fact that our point of view is at odds with most other classificatory systems. As particular interest is very often centered on work and work time, this is why we have a separate category for it. To make the distinction between regular schools that offer degrees or other proofs of qualification and various other kinds of 'adult education' institutions can present practical problems during the coding process, but it can also be overcome.

To include all educational activities under the category of free time checks with Patruschev's schema, as he puts 'development' together with 'reproduction' and 'restitution'. This makes a lot of sense and, we must admit, our principal view is weak at this point.

The third problematic issue has to do with *child care*. All kinds of care of *small* children is considered as committed time, play as well as feeding. Games and play with older children, however, will be activities classified along with other 'socializing' activities classified as leisure. The age of the child can be used as the criterion. If a child is under 10 years of age all activities *with* the child should be counted as committed time. For older children 'games and play' should be called leisure.

## Free time and categories of leisure

The priorities assigned to the four kinds of time indicate an operational way of isolating free time or leisure time activities. In this way we can avoid (possibly dodge) the problems of regular definition. What we propose is to 'define' this by subtracting from the 24-hour day the first three kinds of time. The committed time category, however, is very composite and difficult to identify from short descriptions. The actual operation for such a subtraction might therefore present some practical problems. The activities that fall under the category free time are likewise composite and, to clarify this somewhat, we propose the following list of eight broad groups.

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*Sport and out-doors*
   Participation in all kinds of sports, competition, training, practice
   Walks, tours, excursions, hikes
*Education and study*
   Attendance at schools, courses, lectures
   Homework, self-study
*Organizations*
   Meetings and arrangements of voluntary organizations, clubs, unions, political
   parties
   Civic activity
   Religious organizations, ceremonies
*Entertainment and culture*
   Theatre, concerts, opera, museums, exhibitions
   Circus, music-hall, discoteque, dancing, show, cinema, sports-events
   Restaurants
*Socializing and visiting*
   Visits, conversations – neighbors, friends, family
   Parties at home or away
   Telephones
*Hobbies and creative activities*
   Technical hobbies, photography, collections
   Artistic activity, painting, sculpture, amateur theatre
   Playing musical instruments
*Mass-media*
   TV, radio, records
   Reading newspapers, books, journals
*Relexation*
   Relaxing, reflecting, thinking, doing nothing
   Correspondence

## Possible future methods for time-use studies

Earlier I commented on the similarities between time-use studies throughout the
world. This is partly due to the common background of the researchers and partly
to the fact that some studies are replications of others. In some ways, however,
development has stagnated at present and it is my belief that no further progress
will be made before we break out of the present pattern and develop different
methods.

   A first condition for this would be that the new studies proposed had a better
aim, a more pointed approach, and a more specialized interest in particular
activities. Of paramount importance, however, is the retention of information on
the allocation of time over the daily and weekly cycle. We need information on
such total cycles as frames in order to be able to interpret the findings on particular
sets of activities. The frame, however, can be free of many details.

Secondly, we must abandon the traditional sequence: what, where, with whom. Locality and interaction must be given priority over 'activity'.

Thirdly, we should question the traditional individualistic approach. The individual is not necessarily the best unit of analysis. We need fresh approaches that deal with the unit of the household. That our daily activities are heavily influenced, not to say determined, by the time-use of our families and its members is self-evident and experienced by all.

This last point is very important but admittedly difficult to tackle in concrete studies. In order to utilize the household as a unit of analysis, by necessity one has to cut down drastically on the amount of information gathered if one is to survive the problems of the analysis.

Fourthly, we have to adapt the time diary approach and invent instruments that can be used in more regular interview surveys. In closing, I would like to indicate how this might be done.

An interview survey is basically a sequence of questions, but the interviewer doesn't necessarily have to rely solely on crosses in boxes for answers. He can use other methods for recording the answers; this will be necessary in this context. The interview will deal with 'yesterday' and the sequence of questions can be organized in a series of steps. Step one would consist of two questions: 'When did you get up yesterday morning?' and 'When did you go to bed yesterday?'. The second step would be to ask: 'At which places did you spend your time yesterday?', followed by instructions giving times for leaving and arriving at 'places'. Recording this gives all travel-time throughout the day. The third step would be to label all places and for each of these in turn ask in detail for the particular activities that the study concerns itself with. At this point various kinds of checklists can be utilized as practical aids.

The main strategy here is first establishing the main frame in terms of localities and a set of fixed time-points (leaving and arriving). This greatly facilitates the literal filling in of detail. It is also possible in an interview to obtain information on such frames for the other members of the household. This would be the first step towards obtaining indicators of time allocation for the household unit.

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