

Chapter 5

The Natural History of an Interview and the microanalysis of behavior in social interaction: A critical moment in research practice

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The Natural History of an Interview (NHI) began in 1955 at the Center for Advanced Study in the Behavioral Sciences. NHI was an applied project, as well as multi-, inter-, and transdisciplinary, involving a core group of well-established researchers, all of which were central to its results and influence. The result was a new framework for thinking about communication in face-to-face interaction, including the development of new tools, and a set of principles for analysis. The natural history method focuses on fine-grained observation and analysis of observable behavior during social interaction. Originally involving half a dozen researchers for an academic year, then several dozen scholars over a decade, the assumptions and methods of NHI contributed significantly to the assumptions and techniques used to study interaction today.

1 Introduction

The Natural History of an Interview (NHI) was the name given to a project established in the academic year 1955–1956 at the Center for Advanced Study in



the Behavioral Sciences (CASBS), located in Palo Alto, California.¹ Its aim, as it finally emerged, was the investigation of communication processes in face-to-face (co-present) interaction, although it began with a focus on analyzing particular moments in a psychiatric interview.² The outcome of this project was a new framework in terms of which communicative processes in interaction could be thought about, and the formulation of principles for a new methodology that this framework implied. This new framework and methodology, which entails fine-grained observation and analysis of the details of the full range of observable actions of participants in social interaction made possible by the close analysis of films of social interaction, was to throw new light upon the nature of human communication and had a part in shaping the later development of human interaction studies. A study of this project, the NHI project, as it will be called, the scholarly network it established, and how the new approach it developed came to have a wider influence, provides an interesting illustration of how new ideas in scholarly communities can be generated and diffused.

The work accomplished by the NHI group during 1955–1956 was consolidated and written up in the years following. It was never published, but the material, edited in readable form, was finally made available to the public in 1971 (McQuown 1971g). The ideas and methods first outlined at CASBS were extended and elaborated in later meetings and small research teams, drawing in students and other interested colleagues, that were established in the home institutions of some of the original participants. Some of those who had joined these research teams, though not involved in the CASBS meetings, made significant further contributions to the theoretical and methodological framework that had emerged from NHI. The collaboration gave rise to an informal network of scholars, whose participants shared an interest in communication during social interaction which they approached with theoretical outlook and methodological procedures of considerable novelty at the time. Murray (1994) refers to the kind of network established as a “theory group”; it is also an example of an “invisible college” (Crane 1972). What is important is that these terms refer to a group of scholars who are not all based in a single place (Murray’s focus), and who are not one another’s students or professors (Crane’s), but who still pursue a common research agenda.

¹CASBS was funded by the Ford Foundation and built on land in Palo Alto leased from Stanford University, but it only became affiliated with Stanford University (even then only as an independent research center) in 2008. For a brief history, see Thackray (2018; 2019).

²As Bateson explains: “We call our treatment [...] a ‘natural history’ because a minimum of theory guided the collection of the data” (1971b: 4). It is a term rarely used in Communication, but then Bateson’s training was as a naturalist. For a longer explanation of the development and the use of the term natural history than is possible in this chapter, see Leeds-Hurwitz (2005).

In this case, the NHI group also used a common data set, and common analytic techniques to work with that data, which should strengthen the group. As is standard for other theory groups or invisible colleges, the NHI group also frequently referred to one another's publications, have some joint publications, and show up in one another's acknowledgments.

The participants in the CASBS meetings, who will be described in more detail in section II, included Frieda Fromm-Reichman, an interpersonal psychiatrist, Norman McQuown, a linguist, Henry Brosin, a psychiatrist, Charles Hockett, a linguist, and also two anthropologists, Clyde Kluckhohn and David Schneider (these two withdrew before the end of that academic year). Ray Birdwhistell, an anthropologist (also a product of Chicago) who founded the systematic study of the communicational significance of bodily action, or "kinesics", and Gregory Bateson, also an anthropologist as well as more general human communication theorist, both joined in as consultants at the beginning of 1956. All participants were scholars already well established in their fields. Those who were Fellows of the Center had come for the academic year, each with their own separate projects. Their collaboration in the NHI project arose as a result of their encounters with one another at the Center. Although, apparently to some extent, there was a deliberate effort to put together several fellows who knew each other and who would at the least combine psychiatry with linguistics, any specific project that they would do together had not been planned in advance. Brosin wrote a letter in 1991 to Philip Converse at the Center, explaining:

I was brought in as part of a package deal by Ralph Tyler, Franz Alexander and Frieda Fromm-Reichmann, all well known to each other. Franz Alexander and Frieda Fromm-Reichmann were psychiatrists who pushed for improved study of linguistics in the study of Human Behavior – psychiatry. I was a psychiatrist well-known to anthropologists and had an interest in linguistics à la Edward Sapir, who wrote inspired essays on the subject. Ralph chose Norman McQuown (Chicago) and Charles Hockett (Cornell) as the linguists. They were absolutely *superb*. McQuown was the leader, who kept the "group" together. Actually Alexander left in December of '55 and Frieda was relatively inactive. "Chas" was brilliant but highly individualist! We were joined by Gregory Bateson informally – he worked at Palo Alto VA – and Ray Birdwhistell, who came to visit sporadically. Ray was our kinesics man. (Brosin letter to Converse, December 12, 1991, emphasis in original)

To make sense of these comments, it helps to know that Tyler was Director of the Center at the time, and Alexander had been a fellow the prior academic year, in the first ever class of fellows.

Once the fellows were in residence at the Center, the project came into being as a result of conversations between Frieda Fromm-Reichman, who had questions about the nature of the interaction process, and Norman McQuown. Fromm-Reichman wanted to understand those moments in her therapy sessions in which her patients gained useful insights. She wanted to understand better the details of what happened in those exchanges which might have brought these moments about. She asked McQuown to help her analyze the speech in some audio recordings of actual Chestnut Lodge therapy sessions of these moments. McQuown was sufficiently interested in this to set aside the work he had planned for his fellowship. He became fully absorbed in Fromm-Reichman's question. Soon it was recognized, however, that much more than just the analysis of speech would be needed. As a result, several other colleagues who were Fellows at the Center that year were invited to join in. This included Charles Hockett, who was already a fellow at the Center at that time, and Henry Brosin, who arrived at the Center several months after the others. Somewhat later, when it was realized that the body movements of the participants in the therapy interviews should be studied, Frieda Fromm-Reichman invited Ray Birdwhistell to join as a consultant and it was he who then persuaded Gregory Bateson to join in too. Bateson did so, making available to the group films he had made as part of his project on families with a schizophrenic child which he had organized with John Weakland and Jay Haley at the Veterans Administration Hospital in Palo Alto. As the specimen of interaction they would analyze in great detail, the group eventually settled on a film of Bateson in conversation with a family undergoing therapy as part of that separate project.

The participation of Birdwhistell and Bateson in the CASBS group proved to be of great importance. They both made crucial contributions to the theoretical and methodological approach that developed, and Birdwhistell became very important in enabling the continuation of the work and in maintaining the "invisible college" network that continued after the meetings at the Center came to an end.

The theoretical framework that arose from this collaboration supposes that communication in face-to-face interaction is a continuous process and it is as much about the establishment, regulation, and maintenance of necessary behavioral interrelations as it is about the transmission of new information. It supposes that for all participants any aspect of behavior could be communicatively relevant, and it is because of this that a new methodology developed. This methodology required that, in studying occasions of interaction, one could not assume in advance which kinds of participant actions could be ignored or which should be included. Careful attention needed to be paid to everything the participants did.

Only subsequent analysis could show what was, and also what was not, relevant. This could only be done, however, if an inspectable record of the interaction was available which would enable repeated close examinations. This is why the use of sound synchronized cinematography came to be a crucial element in the new methodology.

It is to be noted that this theoretical framework and its attendant methodology may be seen as a synthesis of the different disciplines represented by the participants. As already indicated, these disciplines were: interpersonal psychiatry, represented by Frieda Fromm-Reichman and Henry Brosin; structural or descriptive linguistics, represented by Norman McQuown and Charles Hockett and also by Ray Birdwhistell to a lesser extent; information theory and cybernetics, represented by Gregory Bateson; and cultural anthropology, also represented by Gregory Bateson and Ray Birdwhistell. The incorporation of sound-synchronous film in the methodology was largely due to Gregory Bateson, who had been a pioneer in its use in his earlier field research.

We may note how each of these disciplines entered into the new synthesis. The idea that the focus of the CASBS group should be on the interrelationships between the actions of the participants in the interaction examples studied, and so upon the communicative systems they were a part of, rather than focusing upon how these acts might be symptomatic or expressive of the inner states of the individuals, reflects the perspective of interpersonal psychiatry. Ideas about how the units of communicative behavior, whether verbal or not, could be identified and analyzed, and how they were to be understood to be participating in the communicative process at different organizational levels, were developed in the light of the method and theory in descriptive or structural linguistics; new thinking inspired by developments in information theory and cybernetics played a major role in shaping the way the processes of communication being studied were conceived; ideas from cultural anthropology influenced how the members of the project came to see how much of communicative behavior is culturally patterned; and the employment of sound-synchronized cinematography as the means by which inspectable specimens of interaction could be examined and analyzed allowed the recognition that, in co-present interaction, details of the visible behavior of the participants were as an essential feature of the communication process as vocal behavior. It was recognized that communication in co-presence was a continuous and unceasing process that operated at several different levels simultaneously and those aspects of these processes that served in the establishment, maintenance and regulation of the interactional relationship were just as important as those aspects deemed to be involved in the transmission of new

information. The concept of communication as a *multimodal* process (as it is fashionable to say nowadays) thus finds an early expression in this project.

The work started at the Center led to the writing of several chapters and the presentation of much of the transcription, both linguistic and kinesic, in what was hoped would be a publication. It turned out that publication was never realized, but chapters written by McQuown, Brosin, Hockett, Birdwhistell and Bateson, both separately and jointly, were brought together into a single multivolume document under the editorship of Norman McQuown and made available in the Regenstein Library at the University of Chicago in 1971, under the title *The Natural History of an Interview*.³ How often it was consulted there we cannot know, but the NHI project had considerable influence on later researchers and has played a significant role in the later development of research on social interaction, as we shall see.

In what follows, we first provide more details on each of the participants in the 1955–1956 seminars at CASBS, clarifying why it was they were able to bring about the synthesis they achieved. Following this we will discuss some further developments in the methodology and theory that took place in the post-Center research groups, giving attention to the work Albert E. Schefflen in Philadelphia and that of William S. Condon in Pittsburgh. Details of the methodological approaches that were formulated by the NHI group then follow. We will close with a general evaluation and an assessment of some of the later outgrowths from this work and the influence it has had on later developments in interaction studies.

2 The NHI core group members: The original collaborators at CASBS

In this section we will explain in more detail who the original members of the NHI were, something of their backgrounds, and, where we can, indicate the extent to which they had known each other before gathering at the Center. We hope this may throw light upon how the collaboration itself developed and in what ways it was successful. As we have already noted, there was no single collective publication, in the end. However, an “invisible college” or “theory group” came into existence which persisted for some years which was important, if somewhat diffuse and often unacknowledged, as an influence in shaping much that we now understand of communication processes in co-present human social interaction.

James Gair in his obituary of Hockett published in *Language*, wrote that he had “a first-rate intelligence, a lively intuition, and a conscious commitment to

³Now available in digital format.

rigor and precision” (2003: 611). This could have been said of any of the original NHI participants. This matters: bringing that many brilliant people together for a project will either succeed wonderfully, or quickly fall apart, depending largely on their ability to work together. NHI as a project succeeded because it changed the ways people could think about, document, and study human social interaction. However, it never took off as a driving force of any prominence in interaction studies as they were to develop more widely. It might be interesting to compare this to what happened with “conversation analysis”, which developed a decade later, and which, in some important respects, had some methodological characteristics not unlike those of the NHI group’s approach. It retained a distinct identity for quite a long period and has often been explicitly acknowledged as an influence (see the Introduction to Streeck et al. 2011, which provides a useful history of the development of interaction studies in recent decades, but does not mention any of the contributions of the NHI project and its aftermath).

This failure of the NHI work to have a more prominent place in the later development of interaction studies derives from a number of factors. Important, for sure, was the fact that its work was never published as a unified document. Also important, we may suppose, was the difficult methodology that was proposed. This required the use of sound synchronized films as specimens for analysis. This was something quite new in the social sciences at the time and few research projects at that time would have budgets that could afford either the expensive equipment or the necessary researcher time.⁴ Further, techniques by which such specimens might be usefully analyzed were not then available and the techniques and apparatus needed for the kinds of the detailed analyses of human behavior advocated by the NHI group had hardly been developed, and such as were developed in the Center’s seminar were as yet in embryonic form. It would take more than a decade for the methods for the microanalysis of films (and later video-recordings) of human interaction to be worked out and more widely understood. Finally, the new theoretical framework for thinking about communication that was developed was also not then widely recognized. Thus, the Natural History approach may have appeared to be too exotic or esoteric for it to be easily appreciated and also the importance of the kinds of questions that were being asked were also not yet widely appreciated.

⁴Birdwhistell (1963) estimates that the apparatus they used for analyzing the film at EPPI, a PerceptoScope, cost \$2000 at the time (this would be \$17,000 in 2021 dollars, so the cost was clearly beyond the budget of most research projects, then or now). Both he and Scheflen talked about the enormous amounts of time spent viewing film clips in order to analyze them. More on that below.

The NHI project as undertaken in its first years, though successful for the new ideas it demonstrated, did not have a conspicuous lasting impact because it was ahead of its time. The subsequent wider influence that it has had resulted partly from the continued work by later investigators who became associated with some of the original members (as we shall see when we discuss the post-CASBS research teams that were set up), but also after the phenomena of communication in interaction became better appreciated as worthy of investigation by others, who were not connected to NHI.

Let us turn, now, to the individuals who were the original participants in the project, explaining their backgrounds, whether and how they were connected with one another beforehand, their roles with the NHI group, and whether and how they continued with the project after the group broke apart in 1956.

Frieda Fromm-Reichmann (1889–1957) was a psychiatrist at Chestnut Lodge in Bethesda, Maryland, where she worked with Harry Stack Sullivan.⁵ Like the others selected for fellowships, she had prior experience talking across disciplinary boundaries at both the Foreign Service Institute (FSI) of the US Department of State (see Leeds-Hurwitz 1990) and the Josiah Macy, Jr. Foundation Conferences (Leeds-Hurwitz 1994).⁶ In consequence of this, she already knew most of the other fellows who became involved in NHI for several of them also had worked at the Foreign Service Institute or had been involved in Macy Foundation Conferences (Leeds-Hurwitz 1994).

When Fromm-Reichman arrived at the CASBS she had a practical concern. Although known for her insightful analysis of schizophrenic patients, according to Bateson, “she felt insufficiently conscious of the actual non-verbal cues from which she arrived at her conclusions,” and hoped that understanding these

⁵Sullivan is well-known today for many things, but in this context his work with linguist Edward Sapir stands out: together they are known for work inventing what came to be called the “Culture and Personality” approach. For more on both Sullivan and Sapir, see Kendon (1990); for more on Sullivan’s ideas, see Sullivan (1940); for an account of Sullivan’s life and work, see Perry (1982).

⁶In 1946, the US Congress passed the Foreign Service Act establishing the Foreign Service Institute within the Department of State in order to train diplomats prior to travel abroad to take up posts as Foreign Service Officers and other positions, as well as to provide periodic in-service training. The focus was on language and culture, so they hired linguists and anthropologists, including many of those who were or became part of the NHI project at various stages (this included Birdwhistell, Hockett, and McQuown of the original cohort at CASBS, as well as Trager and Smith, who come into the story a bit later). Even those who worked nearby (such as Fromm-Reichmann) became part of the FSI extended network, as will be explained. See Leeds-Hurwitz (1990) for further discussion of the history of FSI and its role in the development of intercultural communication as a topic of study.

“would provide an enormously valuable tool for the teaching of Psychiatry” (1958: 96–97; see also Fromm-Reichmann 1955).⁷ In addition to her first role of setting the problem for the group, Fromm-Reichmann’s second role was to minimize arguments among group members, and soothe hurt feelings, keeping everyone on track (Birdwhistell 1959b). Finally, her third role was serving as an informal therapist for Bateson, who sometimes found it difficult to handle his reactions to others critiquing his performance in the film they were analyzing: “What she did was to lend that strength which enabled one to receive the comment” (Bateson 1958: 99). The difficulties that Bateson had with these comments arose because the film that the group analyzed in detail was of a conversation between Gregory Bateson and a woman known as “Doris”.⁸ These last two are roles that remain unfulfilled in most group projects and may perhaps be credited with the solid basis for the NHI group established while together at the Center. Unfortunately, Fromm-Reichmann became ill, and participated in only one small group meeting in the year following. Her untimely death in 1957 meant that she does not appear as author or co-author of any chapters in the final document, since that was only begun at the Center, not finished there.

Norman A. McQuown (1914–2005), a Sapir student in Linguistics at Yale based at the University of Chicago, was one of the first fellows at CASBS to become interested in joining a collaborative project. At Fromm-Reichmann’s request, he set aside the project he had intended for his fellowship and worked with her to prepare an analysis of psychiatric interview materials during the first seminar (published as McQuown 1957). The interview he analyzed had been previously analyzed by Otto Will, also at Chestnut Lodge, and “supplied through the good offices of Frieda Fromm-Reichmann” (1957: 79). Although labeled a linguistic tran-

⁷There was a larger context for this shift from intuition to analysis. As Mead said, looking back in a talk presented in 1968: “The last half century has seen the development of a whole new way of looking at human cultures. It has seen the rise and fall of one method, the use of insight in the perception of pattern, and the slow development of another, the use of instrumentation for recording and analysis of the kinds of materials which we formerly had no way of reducing to order except by insight, the perceptive activity of single human minds” (1969: 13). And in the end, the goal was met, as Birdwhistell suggests: the NHI made it “possible to equip psychiatrists with sufficient insight into the nature of the communicational process to make their own intuitions explicit and thus more available to their colleagues” (1959a: 103).

⁸Bateson explains: “A therapist, who knew of my interest in collecting film data on family interaction, told Doris (who was his patient) about my project. It so happened that Larry and Doris had attended a public lecture which I had given some months previously and, therefore, were receptive to the idea of having some part in our research” (1971b: 1).

scription, the analysis actually provides an early example of a paralinguistic analysis. McQuown took on the leadership of the group when Fromm-Reichmann could no longer play that role.⁹ Birdwhistell praised his “sensitive analytic mind and capacity for painstaking and creative work” (1970: xiv). McQuown prepared the majority of the linguistic and paralinguistic transcriptions and coordinated the efforts of the linguists (Hockett from the original CASBS group, George L. Trager and Henry Lee Smith from the small working group established later in Buffalo) across the length of their participation in the project. He joined virtually every meeting at every stage and was the acknowledged memory of the group, according to both Birdwhistell and Brosin. He not only edited the final manuscript (McQuown 1971g), but also wrote the foreword (1971e), the collation (1971d),¹⁰ and the summary and conclusions (1971c); he co-authored two chapters, including the key Chapter 6 presenting the transcription (Birdwhistell et al. 1971; the other was on baselines, Birdwhistell & McQuown 1971); finally, he contributed two appendices having to do with transcription (McQuown 1971a,b). McQuown credits all contributors to the NHI work, but he names Starkey Duncan as an especially important colleague (Duncan was a graduate student who worked with him extensively at Chicago). Thus he writes: “Although this (9) and the following chapter (10) bear my name, they could not have been written except as the end-product of an on-going and extensive intellectual inter-change among all* the contributors.” The asterisk leads to a second note, saying “including, for most of Chapter 9, Dr. Starkey Duncan, whose prior data-researching, and preliminary hypothesis-formulation made possible the sub-selection whose incorporation into this chapter has been my responsibility” (McQuown 1971d: 2). McQuown was supposed to prepare yet a third appendix, on machinery, but that was never written; it was intended to cover the “techniques of manipulating taped and filmed materials in order to facilitate [such] analysis” (McQuown 1971e: 2). A decade later, McQuown also published much of NHI in Spanish translation, to use in training his own students in Mexico (McQuown 1983).¹¹ He wrote a sympathetic commentary on Schefflen’s development of the natural history method

⁹“When administrative or editorial debates were inevitable, we all voted for McQuown over Birdwhistell to break any deadlock” (Brosin letter to Stephen Murray, 7 May 1991, quoted in Murray 1994: 221, n. 40).

¹⁰In the table of contents, Chapter 9 is listed as being co-authored by Birdwhistell, Brosin, and McQuown, but the cover page for that chapter lists only McQuown, so he is the one credited here with writing it.

¹¹McQuown’s Spanish version of the NHI only offers three chapters from the English original: Chapter 1 (Bateson 1971a), Chapter 3 (Birdwhistell 1971d) and Chapter 10 (McQuown 1971c), plus the Foreword (McQuown 1971e) and Trager’s earlier piece included as an appendix (Trager 1971). To supplement these, McQuown translated into Spanish the following: a paper by Schefflen (1966), a few pages from Zabor’s dissertation (1978), entitled “Transcripción

(discussed further below) or “context analysis” as Schefflen called it (McQuown 1971f), taught that method to his own students (McQuown 1977; Zabor 1978), and encouraged the Chicago team members to publish related projects (Austin 1965; Duncan 1969; 1970; Duncan et al. 1968).

Charles F. Hockett (1916–2000) was a student of Sapir and Trager at Yale (in the same cohort as McQuown), known primarily as a linguist, and based at Cornell University (Hockett 1980). His strong national reputation (he was President of the Linguistic Society of America by 1964) was for work in structural linguistics (his 1958 introductory text was widely praised). In his interests he was not just concerned with issues regarding the structure of languages narrowly conceived. He was interested in the place of language in human life more broadly, much interested in the boundaries between spoken language and other modes of human communication, and he was rather unusual at that time for a linguist because he was interested in re-opening the question of language origins, a topic that, since the late 1860s most linguists had thought to be a waste of time (Hockett 1960c; Hockett & Ascher 1964). Hockett thought it would be useful to compare systematically features of what was then known of animal communication systems with features of human language and it was this that led him to formulate the “design features” of animal and human communication systems (Hockett 1960b). This was intended as a way of identifying just what features in human communication would have had to have evolved for language to be possible. Hockett’s interest in the topic of language origins and the possible relationship of human language to communicative systems in other species meant that he shared interests with Bateson and came to be a contributor to the NHI group’s insistence that *all* aspects of behavior in co-presence must be considered as having the potential for a role in the communication process. Earlier, Hockett had worked for the Department of State, so he had met Birdwhistell at FSI, although his was a different applied project.¹² Hockett worked with the Buffalo team once the NHI project divided into small groups. He received a grant to spend the summer of 1957 on a project with Fromm-Reichmann, but when she died, he joined another project just then getting started, “Linguistic-Kinesic Analysis of Schizophrenia”, funded by the National Institute of Mental Health (see Watter 2017). Robert Pittenger and John Danehy were psychiatrists at Syracuse Univer-

Kinésica Birdwhistelliana” [Birdwhistellian kinesic transcription], and three of his own papers (McQuown 1957; 1971f, and an otherwise unpublished paper, entitled “Modelo para la transcripción acústico-articulatorio-cinestética (Tragueriana y Pikeana)” [Acoustic – articulatory – kinesic transcription model (à la Trager and Pike)]).

¹²He prepared several handbooks for learning Chinese; Hockett & Fang (1944) was the first volume.

sity who had previously worked with Smith and Trager (e.g., Pittenger & Smith 1957), who were based at Buffalo with Birdwhistell, and all three of them served as consultants for the project (Birdwhistell, undated letter to WLH, received April 23, 1984). Together with Pittenger and Danehy, Hockett created a linguistic and paralinguistic analysis of an initial interview by a therapist of a new patient. The pages are cut, “Dutch door” style, with the words, phonetic and paralinguistic transcriptions appearing on the top portion, and commentary on the bottom; no kinesic analysis by Birdwhistell was included in the final publication.¹³ *The First Five Minutes* credits the entire expanded NHI team:

It is likely that we should never have been led to carry on the type of research in which we are now engaged had it not been for the stimulus all of us have had, over a number of years, from Gregory Bateson, Ray L. Birdwhistell, Henry W. Brosin, Norman A. McQuown, Henry L. Smith, Jr., George L. Trager, and the late Frieda Fromm-Reichmann. The occasional bibliographic credit given some of these seven in what follows is a totally inadequate identification of our debt to them. (Pittenger et al. 1960: ix)

Their research was an extension of the NHI project in terms of goals and techniques, incorporating different materials, with overlapping colleagues.

Of his departure from the NHI group, Hockett said: “I felt my theoretical orientation diverging from those of some of the other project members, and deemed it better for all involved if I developed my notions independently rather than running the risk of conflict within the project” (Hockett, letter to WLH, August 12, 1985). While he did not create his own research team to continue the project, choosing instead to join an existing group, he said he “regularly drew on the broadening of orientation the NHI work had given all of us” in his later teaching and writing (Hockett, letter to WLH, August 12, 1985). That impact can be found in Hockett (1960a), linking linguistics to psychiatry.¹⁴ Despite his departure from the NHI group, Hockett wrote the chapter on vocal activity (1971b), prepared an

¹³Of the project, Pittenger says: “A related development, which was not employed in the study under discussion, has been the work done in kinesics – the systematic study of body movements – by Ray L. Birdwhistell” (Pittenger 1963: 142). So, presumably Birdwhistell talked about what would have needed to be done to include a kinesic analysis, and the group decided not to include it.

¹⁴Specifically, Hockett says: “It was Birdwhistell’s kinesics, Smith and Trager’s paralinguistics, and the psychiatric-interview context that gradually rendered me uncomfortable with post-Bloomfieldian ‘marble slab’ grammar with its atomic morphemes and that forced me to try to look at language in action” (Hockett 1977: 107).

appendix on transcription (1971a), and co-authored the central chapter transcribing the interview serving as the focus of attention (Birdwhistell et al. 1971).

Henry W. Brosin (1904–1999) was a psychiatrist, like Fromm-Reichmann. They already knew each other and, as a psychiatric educator, Brosin took special interest in her project to improve the training of students. (He was chair of the Department of Psychiatry at the University of Pittsburgh, as well as Director of the Western Psychiatric Institute and Center, so particularly interested in education.) He was quite well-known nationally, both before and after NHI, serving as President of multiple organizations, including the American Psychiatric Association (Brosin 1968). Informally, like Fromm-Reichmann, he supported the group members during their time at the Center, but he was far more involved in the actual transcription and analysis and participated over a much longer period of time. He joined the CASBS fellows late, in December of 1955, but stayed with the project until the bitter end. On the actual process he said: “The enormously tedious work requiring hundreds of hours to do a microanalysis of even 120 seconds of film with twenty-four frames per second was beyond all of us except Norman McQuown for the linguistics, and Ray Birdwhistell during the summer of 1956 for the kinesics” (in his introduction to Leeds-Hurwitz 1989b: 97). In fact, he was one of the three who managed a group of researchers to continue the project’s progress and, through the development of his research team in Pittsburgh, trained some of the next generation of researchers in microanalysis. Of the final document, he wrote two chapters related to psychiatry (1971c; 1971d) and two appendices documenting the references the group had found useful (1971b; 1971a). In his own chapters he credited the work of many of his team at Pittsburgh, and certainly encouraged them to publish projects related to NHI (Charny 1966; Condon 1970; Condon & Ogston 1966; 1967; Loeb 1968; Sarles 1974). He and his team continued writing about the value of film for psychiatry, as in Brosin (1959; 1964; 1966), Condon & Brosin (1969), or Condon et al. (1970).

Ray L. Birdwhistell (1918–1994), as already mentioned, was not one of the original CASBS fellows but was invited to join the group due to his invention of kinesics at FSI (Birdwhistell 1952; 1954; 1955), where he had met Hockett, McQuown, and Fromm-Reichmann. Although they were in different programs, Birdwhistell explained that Smith introduced McQuown to him, feeling they were “temperamentally suited to work with one another – i.e., equally compulsive about data – equally skeptical about explanatory schemes” (Birdwhistell, undated letter to WLH, received April 23, 1984). Birdwhistell specifically credits the work at FSI with setting up the necessary assumptions for NHI, as it “provided an atmosphere and the special guidance which encouraged the original formulation of kinesics as a science” (1971d: 22). He knew Fromm-Reichmann from her

visits to lectures at FSI. There's a story behind that too: anthropologist Edward T. Hall conducted research at the Washington School of Psychiatry while working at FSI.

Because of my connection with the senior faculty members of the Washington School of Psychiatry and my close relationship with Dr. Frieda Fromm-Reichman, I was able to interest the major figures in the Washington psychiatric community in what we were doing at FSI. I felt that the communication process was at the core of psychotherapy. As a consequence, I used to invite most of the principal psychoanalysts to selected lectures at FSI. One of the spin-offs of this was Fromm-Reichmann's initiative in involving the linguists in her work when she was at Stanford. (Hall letter to WLH, November 13, 1989)

Birdwhistell again connected with Fromm-Reichmann at one of the Macy Conferences on Group Processes, and she thought to invite him to the Center when it became obvious that kinesics would be an essential part of the analysis. Birdwhistell knew Bateson (and Mead) from his time as a graduate student at the University of Chicago, and also saw them again at the Macy Conferences.¹⁵ Conveniently, Birdwhistell happened to be physically in California in 1956, as he had been consulting with Bateson at the Veterans Administration in Palo Alto during several long visits a year since 1952 (Birdwhistell, undated letter to WLH, received April 23, 1984).

Once invited to join the CASBS fellows, Birdwhistell became a core member and maintained a central role until the very end. He created all of the kinesic transcriptions, and managed one of the continuing groups, training the next generation. He wrote the chapter on body motion (1971d, co-authored two chapters with colleagues, including the central chapter 6 (Birdwhistell et al. 1971); the other was on baselines (Birdwhistell & McQuown 1971). In addition, he wrote three appendices, all having to do with kinesic transcription techniques (Birdwhistell 1971a,b,c). In his chapter on body movements, he credits Bateson & Mead (1942) as providing "the most important anthropological contributions to the development of the study of body motion as a communicational system" (1971d: 18), referring to *Balinese Character* (1942). Birdwhistell managed the team at Buffalo (mostly linguists) and the one at the Eastern Pennsylvania Psychiatric Institute

¹⁵As described by Davis (2001: 41–42): "Legend has it that Birdwhistell was a younger anthropologist listening to Mead and others comment on a Balinese film when he interjected something like, 'But did you see what the mother did with the baby after she took him out of the bath?' He then brought to their attention a fascinating medley of actions that occurred in a few seconds".

(EPPI) (relying heavily on Scheflen, and the film technician Jacques D. Van Vlack, with less participation by Raven McDavid, Jr., and William M. Austin).¹⁶ He presented large numbers of conference papers, published journal articles and book chapters, most often about kinesics (Birdwhistell 1959b,a; 1960; 1961a; 1968a,b,c), and a book (1970, which includes 2 chapters from NHI: Chapter 3: Body Motion (1971d), and Appendix 6: Sample Kinesic Transcription (1971c), retitled “A Linguistic-Kinesic Exercise: The Cigarette Scene”, and probably his best known single piece). As with Brosin, Birdwhistell encouraged his team members to publish as well (Scheflen 1963; 1964; 1966; 1968; Scheflen et al. 1970; Van Vlack 1966a,b). We shall have more to say about Scheflen in section III. He became much connected with the core NHI group members: Birdwhistell and Bateson served as consultants on Scheflen’s later project (Scheflen 1960), especially during the final year of research when the film analysis was undertaken (1960: xv, 9, 269), and Scheflen (1973) bears a clear relationship to NHI in terms of both method and assumptions. As we shall see, Scheflen was important for later developments in the work initiated by NHI and he developed the theoretical framework in important ways, developing a focus upon the organization of occasions of interaction (such as psychotherapy sessions) showing how they can be regarded as self-regulating systems with developmental programs and processes by which they can adapt to changing environmental circumstances while maintaining their integrity.

Gregory Bateson (1904–1980) had prior experience with the Macy Conferences, and so knew several of the CASBS fellows (Fromm-Reichmann and Brosin) and he was already working with Birdwhistell. At the time the project started at the Center, Bateson was working at the Veterans Administration Hospital in San Francisco, and so he was nearby. He had previously worked with psychiatrist Jurgen Ruesch at Langley Porter Clinic in San Francisco, so he was already thinking about the ways in which communication played a role in psychiatry (Ruesch & Bateson 1949; 1951) and filming psychiatric interviews (e.g., Ruesch et al. 1955). The fact that he could supply relevant films for the group to analyze made everything move quickly (Bateson 1958: 97). For the final NHI volume, Bateson wrote the chapter on communication (1971a), and the chapter explaining the context of the data (Bateson 1971b). However, he only participated in the small group sessions and conference presentations outside of California sporadically, and ceased his involvement altogether by 1960, as he was then moving away from the study of people and into the study of animals, turning in his chapters

¹⁶Austin was Research Linguist at EPPI across 1961–62, and then a professor at the Illinois Institute of Technology, so he was convenient to both McQuown’s team and Birdwhistell’s (McDavid 1972; Puech & Puech 2018).

before his departure from the group in 1960 (McQuown, letter to Yves Winkin, June 5, 1981). Like most of the others, he continued publishing on related topics (Bateson 1958; 1959), although less than some, given that his interests in animal communication (which he had begun to pursue in 1952, when he studied otters and raised questions about the nature of play; see Bateson 1956, summarized in abbreviated form in Bateson 1972) were beginning to overtake his concerns with human communication.

Bateson was the group member with significant prior experience in recording interaction. After graduating from Cambridge where he had studied zoology and botany, and then anthropology (at the urging of A.C. Haddon, at that time professor of anthropology at Cambridge), he embarked on fieldwork in New Guinea, an outcome of which was his book *Naven*, a study of coming-of-age rituals among Iatmul (Bateson 1936). In this work he had already become interested in communication processes in interaction, realizing their importance in the development, maintenance of differentiation of social roles and relationships. In this fieldwork he had also made some use of photography. After finishing *Naven* (which he wrote in Cambridge) he returned to New Guinea for further fieldwork, where he met and eventually married Margaret Mead. Together with her he undertook a study focusing on child rearing practices in Bali, using both still photography and cinematography extensively, and showed the value of these technologies for analyzing social interaction. Together they published *Balinese Character*, an extensive photographic analysis of many aspects of Balinese social behavior (Bateson & Mead 1942). As already mentioned, this book had a significant influence on Ray Birdwhistell (among many others) and proved to be of importance in developing interest in the analysis of the small details of behavior of interaction and how important it was to study them in order to understand how social relationships develop and are maintained. Some years after completing this book, Mead produced a set of short films from that research which were used in anthropology courses in the US for decades. Of these, *Bathing Babies in Three Cultures* (Bateson & Mead 1954) and *Trance and Dance in Bali* (Bateson & Mead 1952) are probably the best known (Henley 2013; Jacknis 1988).

Bateson had already given much thought to developing a theoretical account of communication processes but remained unsatisfied with his attempts at this until, in 1942, he first encountered ideas about feedback processes and the nature of self-regulatory systems as these were being developed by Norbert Wiener and others as *cybernetics*. Bateson participated in some of the Macy conferences which soon focused on this. After some years spent abroad, working for the US government through the Office of Strategic Services (war time precursor to the CIA), and then a temporary position at Harvard, he was put in touch with Jurgen

Ruesch, a Swiss psychiatrist who was setting up a program of research into communication in psychotherapy, who hired Bateson for this project. Bateson and Ruesch collaborated on a book which was published in 1951, in which ideas from cybernetics were used to understand human communication networks. Bateson soon began working on communication patterns in families with a schizophrenic member and eventually developed his theory of the “double bind”, attempting to understand how conflicting communication with a family system could bring about schizophrenia (Bateson et al. 1956). As mentioned, Bateson had already become acquainted with Fromm-Reichman as a result of his participation in the Macy conferences, and when she arrived in 1955 for her fellowship at the Center, since they were now both in Palo Alto, it is not surprising that he should join her project at the Center as a consultant.

As already indicated, Bateson’s contribution to the NHI seminar was important because he made films available to the group for discussion and analysis, but also important was his theoretical contribution. In fact, Bateson could become impatient with minute data analysis and he did not contribute much to the work of transcription and detailed discussions of specific observations. As Birdwhistell has stressed, Bateson’s interest was mainly in broad theory, much less in the small details. Thus he commented: “In our every meeting, even though much of the detailed and necessarily minute data I manipulate often fails to excite him, he has supported my contention that communication is a social matter” (Birdwhistell 1977: 114).¹⁷

In addition to the six central members, one peripheral group member was included in the final NHI volume: **George L. Trager’s** article on paralanguage was included as an appendix (Trager 1971) since the content was so central to the project, despite the fact that it had been previously published in 1958.¹⁸ Trager had been a colleague of Sapir’s at Yale, he worked with Birdwhistell (and Smith) at FSI, so was very much a member of the theory group described here. He developed the notion of paralanguage while at FSI, although at the time that group was using the broader term “metalinguistics” to include the wide range of communication behavior beyond language (Smith 1952; Trager & Hall 1954; Trager & Smith 1951). The concept of paralanguage was only fully developed while working with the Buffalo group under Birdwhistell’s direction (McQuown 1971c: 2). Trager names Smith, McQuown, and Birdwhistell as “virtual co-authors” (Trager 1958: 3), and Bateson is credited with suggesting the phrase “vocal segregates” (1958: 6), a term still in use today.

¹⁷For an account of Bateson’s life and work, see Lipset (1980).

¹⁸In the article he cites NHI, so to then have his article included in NHI seems oddly circular.

3 Further developments in methodology and theory, following the 1955–1956 CASBS seminars

As we noted in the introduction, some of those who had participated in the 1955–1956 seminars, once they had returned to their home institutions, continued to work on the NHI project and drew into this work new students and colleagues. These included Norman McQuown at Chicago, Ray Birdwhistell, first at Buffalo and later at EPPI in Philadelphia, and Henry Brosin in Pittsburgh. For two or three years following the Center seminars, the participants re-convened in Buffalo, Pittsburgh and Philadelphia, and at these meetings they continued their discussions, also with the involvement of some new participants. There were overlaps between the sets of meetings: Birdwhistell often joined the Pittsburgh group (“once a month for 3–4 days for 4 years”, he says in an undated letter to WLH, received April 23, 1984). Team meetings led to a variety of conference presentations, mostly at psychiatric conventions, and publications mostly in related journals or books.¹⁹ The final NHI manuscript was ready for publication in 1968 but proved to be unpublishable due to both length (it takes up five large volumes) and format (3 of the volumes are transcriptions of the data), so it was eventually made available through the microfilm series at the University of Chicago (McQuown 1971g) and it is now available as a CD-ROM or PDF.

We now consider in a little more detail the post-CASBS involvement of the original participants (except for Fromm-Reichman, of course, who had died), with some observations on the new participants who became part of the endeavor locally, at Chicago, Buffalo, Philadelphia, and Pittsburgh.

Norman McQuown, at the University of Chicago, as already described, continued to do much work on the transcription and also was involved in the writing of several chapters that became part of the final manuscript that he coordinated and edited. In this work he was aided a great deal by Starkey Duncan, as has also been noted. Duncan, in his own work, went on to analyze the kinds of cues that participants in conversation make available to one another which appear to play a part in coordinating the exchange of turns at talk. There were also other younger colleagues who worked with McQuown on research related to the NHI project. These included Raven McDavid, Jr. (a faculty member in linguistics at the University of Chicago then) and William Austin (faculty in linguistics at the Illinois Institute of Technology, located in the city of Chicago), and William Offenkranz

¹⁹For example, Birdwhistell presented at the “Conference on Experimental Psychiatry” which Brosin organized with his team in 1959 and published (Brosin 1961); Birdwhistell’s talk was on paralanguage (1961a).

(faculty in psychiatry at the University of Chicago). McDavid and Austin had worked with Smith, Trager, Hockett, and McQuown for the Army Language Section during the war, and so were already part of this extended network (McDavid 1980). Zabor (1978: 160) says that “McQuown also offered a course, ‘Interview Analysis,’ using the written, film, and audio tape materials of the NHI project as primary text material”. Both Hockett and Birdwhistell had chapters published in a book that Austin edited (1960).

Ray Birdwhistell started a new position at the University of Buffalo after the NHI seminar ended, taking the post of an Associate Professor of Anthropology and Coordinator of an Institute for Human Communication. He continued work on the NHI materials and collaborated both with George Trager and Henry Lee Smith, who were in the Department of Linguistics (Trager, as already noted, contributed a chapter to the NHI collection, writing about paralanguage). Birdwhistell also hosted several get-togethers of the CASBS participants for continued work on the NHI materials. In 1959, however, Birdwhistell moved to Philadelphia to become a Research Scientist at the Eastern Pennsylvania Psychiatric Institute (EPPI). He was influenced to make this move by Albert Scheflen who had been studying patterns of communication in psychotherapy and they began a close collaboration. Scheflen and Birdwhistell organized a number of seminars and short courses on the study of human communication. Some of these were attended by Gregory Bateson and others from the original NHI project, as well as by Margaret Mead, but also others from elsewhere. These seminars and courses were important for making the insights of the NHI methods and theoretical framework more widely known.

Scheflen, as a result of his collaboration with Birdwhistell, made important further contributions. He applied methodologies he learned from Birdwhistell to work on communication in psychotherapy with very interesting results (representative is Scheflen 1973). Further, some of the papers he published in the early 1960s provided very clear and concise expositions of the method, findings, and the theoretical framework first developed in the NHI seminars. These were most valuable for others wanting to learn about this work (see Scheflen 1963; 1964; 1965 in the journal *Psychiatry*). He enriched the theoretical framework, for he made clear the nested hierarchical structure of communication processes, and widened the focus of analysis by developing ways to think about the patterned structure of occasions of interaction such as psychotherapy sessions, informal conversations, or greeting encounters. Kendon & Ferber’s (1973) investigation is a good example of a work which is very much indebted to Scheflen’s approach – see also Kendon (1981) and Kendon (1990). Scheflen also recognized the great

importance of spatial organization in interaction occasions, as witness his book with Ashcraft, *Human Territories* (1976).

Henry Brosin, whose home institution was the Western Psychiatric Institute and Clinic (WPIC), upon his return from California, set about assembling a small research team who were to pursue various issues, practical and theoretical, that had arisen from the Center's work. He also hosted some of the follow-up meetings and Ray Birdwhistell was a regular visitor there. The research team he assembled included E. Joseph Charny (faculty member in psychiatry at the University of Pittsburgh), William S. Condon (a doctoral student in Philosophy at the University of Pittsburgh), Felix F. Loeb, Jr. (a psychiatrist at WPIC), and Harvey Sarles (a faculty member in anthropology at the University of Pittsburgh), with Kai Erikson (Eric's son, a sociologist at the University of Pittsburgh) participating to a lesser extent. Both Charny and Loeb contributed research papers based on studies of their own psychotherapeutic work (Charny 1966; Loeb 1968), and Sarles published a number of theoretical papers (1974; 1975). Condon worked on the micro-organization of the flow of bodily movement in relation to speech and was important for certain advances he made in techniques of film analysis, as well as making important discoveries in regard to the way in which participants in face-to-face interaction often synchronized their action flows. As his contributions were directly relevant to extending methodologies in the NHI enterprise, we discuss his work a little more fully.

Condon had a background in philosophy and began his career teaching philosophy at Pittsburgh while still a graduate student. He became associated with WPIC when Brosin was director. He took a two-week course in linguistic and kinesic analysis with Birdwhistell and Schefflen (held at EPPI in Philadelphia). After this, he did not continue with philosophy but devoted himself to studying human communication, approaching it from the perspective he had learned about from the course at EPPI. He went to Chicago for a year to study linguistics with McQuown as a postdoctoral scholar, then returned as a researcher at WPIC under Brosin (Condon 1979). Here he began to investigate speech and body motion interrelations using sound film. Using a hand operated film analysis projector coordinated with a soundtrack reader, he developed microscopic techniques to investigate the flow of units of bodily movement and their coordination with speech, verifying and refining Birdwhistell's initial observations. He went on to examine how participants in co-present conversations often entered into synchronous relationships in their bodily movements. He termed this *interactional synchrony* (as explained in Condon & Ogston 1966). Continuing research on this, the nature and origins of interactional synchrony became his main research pre-occupation. His methods of film analysis which Kendon, who studied with him in

1966–1967, has termed *movement phrase boundary analysis* (see Kendon 1977),²⁰ led to his ideas about what he called *process units* and their complex, multilevel overlapping organization (see Condon 1970; 1976; Condon & Ogston 1966; 1967).

Condon is a good example of someone who, upon encountering the NHI work through the course he took at EPPI, was sufficiently drawn to it to seek to continue working within that framework and, in doing so, not only contributed usefully to the methods of microanalysis that had already begun to be established, but then went on to investigate interactional phenomena that the NHI work had not dealt with. His trajectory also illustrates how the work originating with the 1955–1956 NHI seminar had matured enough for its methods and theoretical framework to be taught. And it is notable that this teaching was done, not only by one of the original participants (Birdwhistell) but also by someone who had fully absorbed the framework and then played a significant role in extending and elaborating it (Scheflen).

Lastly, it is appropriate to mention Kendon here, for he worked for the academic year 1966–1967 at WPIC, where he learned methods of micro-film analysis from Condon and then, in the Fall of 1968, joined Scheflen's project at Bronx State Hospital, in the Bronx, New York. Kendon had completed a thesis for the degree of D.Phil. at Oxford in 1963 on face-to-face interaction, using the methods of Eliot Chapple (with whom he worked, gathering the data for his thesis). After gaining the D.Phil. degree, he continued as a Research Assistant in the Institute for Experimental Psychology at Oxford (long since Department) where, with the assistance of E.R.W.F. Crossman, who had studied skilled action in operatives in manufacturing, he began to study films of two-person conversations. Dissatisfied with Chapple's insistence on measuring only the "actions" and "silences" of conversationalists without considering other aspects of their behavior, he proposed to examine, in relation to the spoken utterance exchanges, facial expressions, gaze direction, posture changes, change in head position, and hand movements in the conversationalists he filmed, believing that these things must play a role in the mutual coordination of actions in conversations. An outcome of this investigation was a publication on the apparent role of changes in gaze direction in the participants in regulating turn-taking (Kendon 1967). While engaged in this research, he had his attention drawn to Scheflen's article in *Psychiatry* of 1964 on the significance of posture in face-to-face communication. This article, a very clear and concise summary of the kinesic observations of Scheflen and of Birdwhistell, immediately struck Kendon as representing the kind of ap-

²⁰See the Appendix, pp. 225–240 for an account of "movement phrase boundary analysis", the method of microscopic film analysis as learned from William Condon.

proach to the study of interaction he was himself trying to develop. He thereafter got in touch with both Birdwhistell and Scheflen, receiving preprints and publications from them. In the summer of 1965, he was able to visit Scheflen in Philadelphia and showed him a preprint copy of his investigation into the functions of gaze direction in interaction. Scheflen was struck by this work and, eventually, arranged for Kendon to go to WPIC, where he worked with Condon, as already mentioned. Subsequently, in 1968, Kendon was able to join Scheflen's new project at Bronx State Hospital in New York. There he worked on studying greeting encounters and on the spatial-orientation structure of various kind of occasions of interaction (many of the essays in Kendon 1990 are a product of this work with Scheflen). He also did studies on how hand and head movements in speakers were co-ordinate with spoken utterances (Kendon 1972b; 1980), which were to be foundational for work in gesture studies as it developed later. For this work and for the work he undertook while at Pittsburgh, he made use of films made available to him by Birdwhistell, with whom he was in contact, though he never actually worked directly with him. He also published an extensive appreciation of Birdwhistell's work in kinesics (Kendon 1972a being an essay review of Birdwhistell's *Kinesics and Context*). Kendon, thus, coming to the study of social interaction with his own perspective which, so he discovered, was very compatible with the approach of the NHI project, is an example of someone who, so to speak, adopted himself into that network and to some degree has continued its tradition. A good example of how the NHI work has infected and modified the work of another who came to it from the outside.

4 The Natural History Method as Developed from the NHI Project

Here we describe the Natural History method, beginning with the way it was first formulated but then also incorporating later modifications and refinements due to the further work of Birdwhistell and Scheflen, also adding observations by Kendon who has discussed aspects of this methodology in several places as an outcome of his collaborations with Condon and Scheflen (see Kendon 1977; 1979; 1981). The NHI researchers spent an enormous amount of time preparing the NHI report and intended that "this manual may be used for the training of further adepts in the techniques of analysis and interpretation" (McQuown 1971e: 3). In fact, partially due to the final decision that the result was unpublishable, and partly to the fact that the "Doris" film used for analysis could not be made available in tandem with the transcription due to confidentiality concerns, it was

rarely so used, and then mostly by McQuown, either with his Chicago students, or with his students at Universidad Nacional Autonoma de Mexico, in the Spanish translation he prepared (1983). However, it is still useful to examine the method used to analyze their data due to the influence of the project on later researchers.

McQuown describes six steps (McQuown 1971e: 5):

1. Soaking (multiple viewing-listening),
2. Scene selection and intensive study,
3. Matching (and tagging with a frame number) of particular points in the kinesic record with their counter parts in the linguistic record,
4. Identification of symptomatic features,
5. Specification of clusters of symptomatic features, and
6. Uncovering of the interaction profile.

Before considering these steps, however, there is one step omitted from the list which is essential: acquiring a corpus of data to analyze.

Step 0: Obtaining a Corpus

The NHI team members at CASBS never intended to begin a long-term project, and so no one spent much time worrying about what data would be appropriate to use when beginning their second project in early 1956. After all, they were scheduled to be together for only a few more months. Birdwhistell knew that Bateson had been filming therapist/patient interviews and might be willing to permit their use, so it seemed simplest to use one of Bateson's films, and that is what they did. As Bateson describes it:

We start from a particular interview on a particular day between two identified persons in the presence of a child, a camera and a cameraman. Our primary data are the multitudinous details of vocal and bodily action recorded on this film. We call our treatment of such data a "natural history" because a minimum of theory guided the collection of the data. The cameraman inevitably made some selection in his shooting; and "Doris", the subject of the interview, was selected for study not only because she and her husband were willing to be studied in this way but also because this family suffered from inter-personal difficulties which had led them to seek special psychiatric aid. (Bateson 1971a: 6)

Typically, the expectation (at least on Birdwhistell's and Bateson's parts) was that filming was itself still not the first step. Prior to recording should come observation; the intent was to document something already known to be potentially relevant and interesting. Bateson had already demonstrated this with *Balinese Character* (Bateson & Mead 1942), where the photographs used in that publication were taken in the light of understanding aspects of Balinese culture which they had arrived at through observation and with acquaintance with previous work by others in Bali. Clearly this position made even more sense to both Birdwhistell and Bateson as the years passed. For example, Birdwhistell made fun of the tendency of some "to go into the field, aim a camera or a microphone at a social occasion, and come back with the conviction that social convention or 'culture' has been ethnographically recorded for posterity" (1977: 111–112).²¹ In class at the University of Pennsylvania in the 1970s, he used the metaphor of the vacuum cleaner to warn of the dangers of just gathering data with no idea of what it meant: "Once the bag is full, you then have to sort out the dirt you sucked in" (Yves Winkin email to WLH, May 20, 2020).

Some years after starting his work with Birdwhistell, Schefflen provided an explicit outline of the multiple steps ideally to be taken *prior* to recording any data (Schefflen 1973: 313–314):

1. Go to the site where the event being studied normally occurs.
2. Show up on the occasions at which it would happen anyway.
3. Observe experienced participants who already know each other.
4. Take all possible measures to avoid changing the situations.
5. Observe rather than participate directly.

Once it was clear what behavior was to be recorded, then the goal was to preserve that behavior so it could be viewed over and over again during analysis. Kendon

²¹His many book reviews offer remarkably caustic comments in support of his views of what constituted adequate research, such as: "The little volume should be convincing as to the inadequacy of exclusively verbal data as a reliable instrument for measuring interpersonal adjustment. Students tempted to *substitute* the tape recorder for observation should read this before going into the field" (Birdwhistell 1964b: 486, emphasis in original) or "His attack is never burdened by data [...] he offers no behavioral data to support his conjectures [...] This book should be very useful as required reading for students who doubt the need for field work and for direct observation" (1964a: 1463-1464).

(1975: 7) highlights the need for recording, whether audio or video, prior to analysis: “Sound-film and videotape are thus the primary instruments because they are the only means available by which behavior may be ‘fixed’ and so made into a specimen that can be repeatedly examined” (see also Mead 1969). Brosin (1971c) points out the value to psychiatrists of having recordings: additional therapists could view an interaction after the fact and consult on its meaning. It becomes clear: first needed is some observation of a context, then and only then is it time for recording behavior. But again, before recording can begin, several decisions must be made.

David M. Myers was the technician who filmed and taped the interview with Bateson used in the NHI project (Bateson 1971b), but his comments on what he was doing are not available. However, the primary filmmaker at EPPI was Jacques Van Vlack, and he did leave a written explanation for others who might take the role of technician. For psychiatric interviews, he emphasized the importance of adapting to the needs of the research subjects, and recommended: studio quality lighting, clear high fidelity sound (wireless lavalier microphones and a spot microphone, supplemented by a separate audio recording), a camera set up to film the entire scene unattended so as to minimize interaction with an additional person, as well as a secondary camera for close-ups (Van Vlack 1966a). He stressed such details as having a second original copy in case of disaster, never permitting analysis of the original lest it be damaged, and absolutely preserving the confidentiality of the participants (1966a). Van Vlack also stressed the way in which “the sound camera[...] is a data-recording tool which circumvents an observer’s cultural and psychological biases” (1966b: 5). And he described the value of assigning a number to each frame of a film, so that researchers could refer to them in the analysis, while using motion analysis and stop frame projectors (1966b). This he accomplished by creating a special frame numbering “B-Roll” – the films to be used for analysis were printed so that a frame number appeared at the top of each frame which could be seen when the film was viewed. Kendon (1979) also reviews some of these and other technical requirements. Among other additions, he stresses the importance of maintaining the camera angle: “choose the most comprehensive angle possible and then stick to it [...] so that all of the participants in a transaction can be seen all of the time” (1979: 75). And if possible, start filming before the event that is the focus starts, and continue after the participants have dispersed so as to “record the behavior by which the event was set up and by which it was brought to an end” (1979: 75). Only after all three of these preliminary activities (making observations to determine what to record, deciding how to record, actually recording) have occurred is it time to move on to the steps of analysis.

Step 1: Soaking

Once interaction has been recorded, analysis can begin. The first step in McQuown's list is "soaking", which refers to repeated viewing of (and listening to) the film. Birdwhistell prepared a detailed description for all steps of the process, which McQuown included in the Collation (1971d: 5-10). Here are his comments on soaking:

The film – with sound – was played through fourteen times in joint sessions before each of the analysts turned to his special medium. The linguists and the kinesicist again extensively reviewed the full collection of materials, each concentrating on those of his own medium. The psychiatrists joined them for listening or viewing, meanwhile continuing to gain perspective on the family being interviewed and on their associations with the researcher-interviewer, with the therapist, and with the neighbors who appear in several sections of the film not covered by the intensive analysis. (McQuown 1971d: 5)

Some clarifications may be useful. As a reminder, the linguists were Hockett and McQuown, the kinesicist was Birdwhistell (otherwise known as an anthropologist), the psychiatrists were Fromm-Reichmann and Brosin, and the researcher-interviewer was Bateson. The "full collection of materials" reviewed by team members refers to additional films of this family, as well as interviews with the psychiatrists who were actually treating Doris, the woman who serves as the focus in the film provided by Bateson (described in some detail in Bateson 1971b). These additional films of the family and interviews of the therapists served to provide context for the NHI core team and substituted for the more standard observation prior to recording. "The material from these subsequent filmings has all been a part of the background of the present study, though no part of it was actually used for micro-analysis" (Bateson 1971b: 4). There was also "a magnetic tape recording of the entire proceedings" (ibid.: 5), meaning they made both video and audio recordings simultaneously. Brosin (1971d) explains in some detail what material beyond the audio and visual recordings was available to the team: six film segments (created across two visits to the family home, involving Doris' son, husband, and various friends), plus Fromm-Reichmann and Brosin visited Doris and her son at home, they met separately with Bateson, and they met four times with Doris' regular therapist. Bateson explained to Doris his goal at the time:

We're studying the disruption of communication between parents and children, trying to get some idea of the various gambits that the two sides use,

in trying to get together or, the degree to which the gambits separate them or bring them together. There's very little been done, actually, on the actual natural history of what does happen between parents and children. I mean a thing like that "Three Families" film. Nobody else has done a film like that that I know of. It's very obvious, it's very accessible, ready to do, and most of what is said about parents and children is on somebody's report of what happens. So, we're trying to get in and do the natural history of it a little. (Zabor 1978: 229-230)

Zabor transcribed this from the audio recording made during the interview; it was not caught on film and is not included in the NHI document itself.

Step 2: Scene selection and intensive study

The second step Birdwhistell outlined was to choose the critical scenes that seemed important to transcribe and analyze. As he described that step in NHI: "With the perspective gained through these experiences [those included in the full collection of materials listed above], the whole group collectively selected certain scenes for special consideration. The first of these chosen was the 'cigarette' scene [...] which appeared to mark a critical point in the interviewer-interviewee relationship." Following that choice, "a variety of scenes within the interview were subjected to varyingly intensive analysis" (in McQuown 1971d: 6). Again, some clarification may be useful: the cigarette scene was the moment during their conversation when Bateson lit a cigarette for Doris. Once having sorted out which scenes would be the focus, Birdwhistell reports that the group returned to further soaking. "Repeatedly, during this research period, the team as a whole sat together for a full screening of the entire interview. Only in this way was it possible not to lose perspective" (in McQuown 1971d: 7). Based on his later experience in the project, Schefflen (1968) suggests that it may be necessary to view a film clip 50 to 100 times over the course of analysis. The need for it, of course, at least in those days, had partly to do with the fact that one was led to do this kind of close scrutiny of the film clip because one kept seeing new things – things that had never been seen before – in this way it was like looking in a microscope in early days of microscopy; it was revelatory. A very important instrument in this work was the use of hand-operated film analysis projectors which allowed one to look at very short stretches of film at close to normal speed. In this way one was able to see the movement segments and how these were interrelated. It is different from frame-by-frame analysis, also used. It was indeed a revelation to look at films of interaction in this new way. Specialized equipment was required,

including a Bell and Howell Slow Motion Analyser and a PerceptoScope. Birdwhistell called the former “reliable, sturdy, and easy to operate”, and the latter was “designed for military use” with “complete time control of in-focus images,” but much more expensive; even so, “as far as I know, it has no equal as a research or exhibition device” able to “stop and hold a given image for examination for a predetermined period of time” (Birdwhistell 1963: 58). As documentation that the PerceptoScope was intended for military use, in July 1956 an advertisement calling it “the new electronic aid for modern military training” was published in *Air Force: The Magazine of American Air Power* (Perceptual Development Laboratories 1956). Two years later, it was being advertised in the *Journal of the Society of Motion Picture Engineers*. This time the advertisement used a small photograph, with a detailed description of what it could do, including use of “a hand-sized electronic remote-control unit on a 25-foot cord” (Perceptual Development Laboratories 1958).

Step 2.5: Transcription

Again, there is a step which remains implicit in the description provided in the NHI compilation of 1971: transcription. Notice that transcription comes after soaking, not before. Through watching the visual record, “a conception of the structure of the event quite often emerges” (Kendon 1981: 479). Transcribing early, before one had thoroughly familiarized oneself with the specimen being studied, might mean making choices about what is important before the material was more fully understood. It is, of course, impossible to transcribe everything: “[...] no transcription, no matter how fine grained, is ever complete. One must inevitably make a selection. Thus the map one makes, the transcription one produces, is as much a product of one’s investigation as a means of furthering it” (Kendon 1981: 479).

Birdwhistell credits McQuown with establishing the original design of the transcription process, before they had the Van Vlack frame numbering system in place:

McQuown, as organizing editor of this multidisciplinary research, had insisted on fine-grained and exhaustive recording of both the linguistic and kinesic material. This recording was done as independently as possible: McQuown and Hockett working with tapes, while I recorded from the silently projected film. Later, McQuown and I, by careful listening and viewing, gave frame numbers (thus timing) to the material from the two modalities. (Birdwhistell 1970: 116)

To emphasize: the linguists created their initial linguistic and paralinguistic transcription only from the audio record, while Birdwhistell created the initial kinesic transcription only from the visual record, played without sound. Then they combined the separate transcriptions into a single whole, and this is what serves as the heart of the NHI report: Chapter 6, taking up three of the five total volumes of the printed version (Birdwhistell et al. 1971). This separation was not maintained once the researchers left California.

In his comments at a conference a few years later, Birdwhistell explained the basics for an audience unfamiliar with NHI:

We are now recording from interactional behavior approximately one hundred forty-one lines of discrete information. Those one hundred forty-one lines are levels of abstracted material, separated carefully to make sure that we do not throw any future babies away in last week's bathwater! In final synthetic analysis, these must be put back together. However, you must first establish levels of behavior. When Scheflen and I work on kinesics, first we examine an incident, a piece of behavior, in a number of matrices. We ask: What was the response of others to this behavior? What does this allow us to discriminate as appropriate or inappropriate? (Birdwhistell comment in Hayes & Sebeok 1972: 173)

Like soaking, transcription was never expected to be a one-time activity (transcribe – once – and then move on to analysis using only the transcription). Instead, the transcription was repeatedly revised throughout the process of analysis. Kendon points out that the stages of transcription and analysis are interdependent, and so the process is both interdependent and cyclical: “A transcription system embodies a theory as to what constitutes the significant units of which the phenomenon being transcribed is made up” (Kendon 1979: 78). Thus, transcription does not occur prior to analysis, but rather should be understood as one element of theorizing about what is occurring during interaction, and how best to analyze it. Obviously, this technique takes far more time and effort than simply creating a transcription once and assuming it is reasonably correct. Even so, over time group members got significantly faster at the process. Birdwhistell proudly points out that “During the course of investigation, techniques were developed that reduced recording and analysis time [...] from about 100 hours per second to less than one hour per second” (1970: xi–xii). While he was pleased with the reduction, most others were only astonished that he had ever been willing to spend so much time. But the considerable time spent did not only apply to Birdwhistell's team at EPPI, and not only for NHI, but for others, and for later

projects. As an example, Duncan (part of the Chicago team) transcribed two 19-minute segments of film for a later study of turn-taking, and it took him “the better part of two academic years” (1972: 285). Much as he found these sorts of detailed transcriptions to be valuable, he acknowledged “A primary obstacle to research of this type is the laboriousness of making fine-grained transcriptions of multiple interaction behaviors” (1972: 291). Now with the availability of ELAN (an audio and video recording annotation software developed at the Max Planck Institute for Psycholinguistics in Nijmegen), and similar programs, the process has been somewhat streamlined and is now more standardized.

Step 3: Matching

In the original NHI, much effort was spent sorting out what behavior in which scenes was similar, or related in some way, so that that behavior might be granted additional attention. Birdwhistell explained it this way:

It soon became evident that a topography of interaction for the whole interview might be worked out [...] As the team repetitively reviewed the film as a whole, it became clear that even though the trail of analysis, which the research problems themselves had imposed, had established some boundaries to the relations of the persons in interaction, the interaction itself contained self-regulatory mechanisms which required charting, if the interaction was to be understood and its topography established. (In McQuown 1971d: 7)

He added clarifications a few years later:

When we do an analysis, we abstract particular events, search through our corpus until we find comparable events, and then look for larger frames within which they regularly occur. We ask whether there is anything in this which tells us that this piece has to be accommodated to somewhere else in the system. If you find a piece of behavior which is otherwise repetition and discover that it differs significantly in some respect, a search through the corpus usually reveals a cross-reference signal, often in the paralinguistic or tactile system, which handles the discrepancy or at least identifies it as especially worthy of attention. (Birdwhistell comment in Hayes & Sebeok 1972: 173)

The focus at this stage is to sort out what is important, “an initial delineation of structural units”, as Kendon puts it (1979: 73). Each unit is examined in its context and compared with other examples of the same behavior. Kendon continues:

“Context analysis, thus, is so called because it insists upon always examining the patterning of units in their contextual relations with other units, and the interactive functioning of behavioural units is derived from the difference their occurrence or non-occurrence makes in otherwise similar contexts” (1979: 73–74). Observation provides one way of expanding an analyst’s understanding of context, and soaking provides another, so matching provides the third element.

Steps 4, 5, 6

The focus on symptomatic features in steps 4 (identification of symptomatic features), and 5 (specification of clusters of symptomatic features) as presented by Birdwhistell in NHI are only relevant when the context is a psychiatric interview – so later publications drop that vocabulary, and it is not worth much time here. Step 6 (uncovering of the interaction profile) is explained this way by Birdwhistell:

Throughout the analysis of the interview, the principal focus of interest of the group was on the abstraction of the relationship between the participants in it. Every attempt was made to frame the analyses, linguistic, kinesic, and psychiatric, in terms which would turn the attention of the analysts to the on-going social relationship and which would preclude the development of a set of parallel but separate biographies. A consistent effort was made to see in the individual responses not merely indices to personal systems but also indications of the developing interaction between such systems. (In McQuown 1971g: 52)

The important part here is to stress that the analysis did not focus on individuals: the goal was to understand *how interaction between people and within relationships works*, and so the parts (that is, individual utterances or movements) need to be seen as pieces of a whole. After all, although Fromm-Reichmann’s original intent was to understand her patients, the eventual goal adopted by the NHI group was rather to examine the entire interaction, to see how multiple participants connect and mesh what they do when they are together. The separate pieces fit together in levels, as Kendon explains: “in examining the behavior in the specimens [recordings] gathered, one seeks out recurrent patterns in terms of units of behavior that are relevant for the communication system that is in operation [...] the structural units of behavior which are being sought for the participants’ behavior may be recognized at several different levels of organization. Units at one level [...] may themselves participate as components of units at higher, more inclusive levels” (1990: 35-36).

Steps 3, 4, 5, and 6 are all parts of the analysis of the recorded data and so were most often combined once the researchers moved into small groups in Chicago, WPIC and EPPI. For example, Zabor combines these into a single stage of “analysis of the corpus” saying that “all perceptible behaviors are notated within the limits of the notation system and the researcher’s perceptions” (1978: 208), separating out the technical paralinguistic and kinesic analyses as later steps. Essentially all of these steps are about gradually locating the various clusters of behavior that are related and coming to understand the ways in which they relate one to the other.

Scheflen added some features of the steps of the natural history method (which he came to call “context analysis”). One feature he emphasized which was not brought out in earlier formulations was his observation that communication during a therapy session is structured and can be analyzed. Indeed, one of Scheflen’s innovative contributions to the method was that occasions of interaction tend to have a traditional overall structure or program. This he first pointed out in his studies of psychotherapy sessions, but he came to see that it applied to most kinds of occasions of interaction. In the light of this, the steps of analysis that he outlined are slightly different from those we have quoted above from McQuown. Here they are as presented by Scheflen in a chapter in a book on methods addressed mainly to a psychiatric audience (Scheflen 1966: 270–284):

1. Recording and transcribing using sound motion picture to record both linguistic and non-linguistic behaviors, providing a complete record of what occurred, so that a transcription might be made of everything (“We do not decide beforehand what is trivial, what is redundant, or what alters the system. This is a *result* of the research”; 1966: 270).
2. Ascertaining the structural units (what are the component parts, how are they organized and related to one another, what is the context in which they appear).
3. Synthesizing the larger picture to determine meaning or function (understanding the importance of context for understanding meaning).
4. Setting up the natural history experiment (checking to see what changes if a structural unit is changed or missing).

As noted above, one of Scheflen’s innovations in his development of the method was his idea that interaction is *patterned*. As he put it: “Logically speaking, were it not that interactions were patterned, behavior would be unpredictable and

unreliable, and it would be impossible to sustain, mediate, and form human relationships, complete coordinated tasks, and transmit a common culture. Communication depends upon a common behavioral morphology of shared meaning” (1968: 47). Behaviors in interaction are also *context specific*: “each culture and subculture, each institution and each situational and social context has its own programs. In addition, there are multiple roles in each program [...] The point of the program concept is not to deny individual and social diversity, but to identify order” (1968: 47). And also *learned*: “behavior appears in standard units in any culture because the members learn to perform so as to shape their behavior into these molds so that it is mutually recognizable and predictable” (1968: 45). In addition, “[i]n learning the programs organisms come to be people of particular skills and social position and in performing them people make social relations and perpetuate culture” (1968: 48). With these concepts (pattern, context, learning) in mind, researchers examined the film over and over in order to decide what patterns appeared, and how they fit together. As put later by Kendon (1979: 72), “It is one of the principal [sic] aims of context analysis to discern and to give an account of the patterns into which behavior is organized which make communication possible”. Others echo this approach: Birdwhistell (1970) stresses all these aspects, of course, but others as well; Duncan (1974: 161) says his research was “designed to discover elements of *structure* in the broader communication context” (emphasis added), structure and pattern being much the same.

Step 7: Creating an archive

Just as there was a preliminary step not made explicit in the NHI listing (here numbered 0), so there is a final step omitted from that list. Birdwhistell pointed out that observing and creating a recording (parts of step 0, as described earlier) and viewing and analyzing the data (steps 1–6) are still not complete.

From the most technical point of view there are four cardinal steps in the development of valid and reliable social behavioral data: (a) learning to observe; (b) learning to record the component events and relevant context of that which is observed; (c) the organization, preservation, and preparation for analysis of stored data; (d) the development of relevant and efficient methods for the review and analysis of such data. (Birdwhistell 1967: 554)

If more than a few recordings are to be made, and if they are to be maintained over time and possibly re-used for later research studies, or shared with colleagues for their analyses, then there needs to be a system developed to organize an archive.

Each research team develops their own system, but it is the need for a system which is worth mentioning here. In Birdwhistell's time, no move to set up the sort of archive he had in mind was ever made. One attempt at creating an archive for storing films relevant to the kind of research on social interaction envisaged by Birdwhistell perhaps could be identified in the Human Studies Film Archive at the Smithsonian Institution in Washington, D.C., where Birdwhistell's own films are stored. More recently, archives for field linguistic research recordings have been set up in such institutions as the School of Oriental and African Studies (SOAS) in London, or at the Max Planck Institute for Psycholinguistics in Nijmegen in the Netherlands. Field linguists, many as anthropologists investigating and seeking to preserve endangered languages, in recent years are much more aware of and interested in looking at languages in their interactional contexts and many use video recordings in their field work and deposit their material in these newer language archives (the terms of their research grants often require them to do so). But these recordings are by no means always guided by interests in examining languages in their ecological and interactional settings, so how far the materials in these archives will prove useful in interaction research is not yet known.

5 Conclusion

The Natural History of an Interview was one specific project, originally developed by half a dozen people across an academic year, but in the end involving many more researchers and lasting over a decade. The research carried out by the group established at CASBS was never published, although the original team members struggled with that possible outcome for a long time – at one point McQuown described it as “the book with which we are still plagued” (comment in Hayes & Sebeok 1972: 173). The collaboration begun at the Center led to the establishment of a network of researchers into social interaction who shared a common style of research; many of the assumptions and features of their methods have had an extensive influence and have contributed significantly to the way interaction studies are pursued today. It may thus be regarded as a very fruitful and productive collaboration. On the other hand, for various reasons outlined at the beginning of this paper, the *specific* accomplishments of the collaboration, such as the actual analysis of the interaction specimen they used, were never published and this might be seen by some as an indication of a lack of success.

What can later researchers learn from the NHI project? First, NHI involved major scholars from a variety of disciplines, who had previously, in various combinations, collaborated and NHI can be regarded as something of a poster child

for combining disciplines in order to more adequately address real problems. Second, in order to answer the applied question Fromm-Reichmann initially posed in 1956 at CASBS, NHI developed specific tools and techniques, and a set of theoretical assumptions that serve as the grounding not only for that analysis, but also for the analysis of human interaction generally. Most of these tools and techniques and theoretical assumptions are today taken for granted as obvious.

The role of multi-, inter-, and transdisciplinarity in innovative research

NHI is variously described as multidisciplinary or interdisciplinary. There is a distinction between multidisciplinary, interdisciplinary, and transdisciplinary research, but the terms are not always used consistently, and significant distinctions in use appear across national or disciplinary borders. For the purposes of this discussion at least, the following assumptions will be made:

1. *Multidisciplinary* research just requires that people trained in different disciplines talk with one another and attempt to bring their different assumptions to bear on a common problem. NHI started as a multidisciplinary project because it involved psychiatrists, linguists, and anthropologists.
2. *Interdisciplinary* research requires that a new topic be studied, or that it be studied in a new way, achievable only by meshing what participants based in different disciplines take for granted. NHI became interdisciplinary, in that members developed a new question not typically framed as being inside any one discipline (how intuition reveals aspects of communication which might be codified), and then created something new and different in terms of how small details of interaction might be studied (microanalysis).
3. *Transdisciplinary* research either involves an applied focus, or participation of a larger public interested in a topic. The involvement of practicing psychiatrists who were attempting to resolve a practical problem (how to codify Fromm-Reichmann's use of intuition so that it might be taught to other therapists, thus improving patient care) means that NHI was also transdisciplinary.

All three of these approaches require participants to cross disciplinary boundaries, which is possible only because "Academic disciplines are made, not found. They are socially constructed, just like ideas, organizations, identities or relationships" (Leeds-Hurwitz 2012: 1). Moving from work within a single discipline to work entailing multiple disciplines can be difficult, and many scholars choose not

to go that direction. Then changing assumptions and techniques requires still more flexibility; moving from theoretical research to applied research requires more yet again. It should come as no surprise that most people are not willing to make these moves: at the very least they are challenging and time-consuming. However, they can be rewarding.

The fact that the NHI research team was multi-, inter-, and transdisciplinary was a central characteristic, and necessary to the results; it was not a chance occurrence. Birdwhistell quotes an unnamed executive at one of the major research foundations (likely Lawrence K. Frank at the Macy Foundation) with saying:

We are at a critical stage in the history of science. We have learned to recognize problems so complex that no one discipline is able to solve them. At the same time we know very little about how to maintain productive collaborative research among scholars representing divergent disciplines. Out of some two hundred or so interdisciplinary projects with which we are associated I doubt if more than ten or fifteen will be sufficiently productive to reach publication. (Birdwhistell 1961b: 106)

Of course, it is ironic NHI was one of the projects that never saw actual publication. Nonetheless, the project had significant impact on research practices, or we would not still be talking about it over 60 years later.

That members of the NHI group had prior multi-, inter-, and/or transdisciplinary experience, mostly through various Macy Foundation Conferences, helped the group get moving quickly (McQuown 1971c: 3). As mentioned above, Fromm-Reichmann, Bateson, and Birdwhistell were all part of the Macy Conferences on Group Processes, while Brosin and Bateson were part of the Macy Conferences on Cybernetics (Leeds-Hurwitz 1994). The Macy Conferences were explicitly designed to provide a context for crossing disciplinary boundaries by inviting small numbers of scholars to sit around a table and listen to one another's newest ideas; the slogan was "novelty from interaction at interfaces of disciplines" (Brosin letter to WLH, August 26, 1991). As Mead points out:

Such innovators as B. Ruml and Lawrence K. Frank experimented with various ways of breaking down the barriers between subject matter fields – psychology, sociology, anthropology, physiology, endocrinology – such as the establishment of longitudinal multi-disciplinary research projects [...] and the small substantive conference which specifically drew for its membership on many academic fields and many types of practice. (Mead 1968b: 10)

Mead specifically includes the NHI project as an example of time when this worked (Mead 1968a). She felt strongly that complex projects needed multiple disciplines involved in constructing a solution.²² It is worth noting that she specifically refers to NHI as a “classic interdisciplinary study” (Mead 1975: 210).

Birdwhistell emphasizes a related issue, the importance of the main players knowing one another prior to beginning collaborative research.

You have to remember that this was a much smaller world then – many fewer people and most of us knew or knew about one another [...] This is part of the ferment out of which Macy was born, bringing together specialists who knew (and were recognized in) their own field and who were interested in ideas coming from other disciplines. *This is important*: People well framed in *particular* disciplines got together *as equals*. It was exciting and productive. (Birdwhistell, undated letter to WLH, received August 1991, emphasis in original).

Brosin once explained that the Macy conferences were the answer to the question: “how does a relatively small foundation (not Rockefeller, Carnegie, MacArthur, Johnson) capture the imagination of the intellectual world??” (Brosin letter to WLH, August 26, 1991). As Zabor (1978: 162) points out, for NHI “an immense amount of intellectual synthesis took place as a wide intellectual context and history was brought to bear on specific questions about audible and visible human social communication”. Working together in multi-, inter-, and transdisciplinary groups can become accepted practice, but it still requires considerable effort to bring about and carry off successfully. Some of what worked at CASBS was unique to that context, and some transferred readily to the distributed research in the years following. Merton described CASBS as having “institutionalized serendipity”: “It was thought possible to provide a microenvironment that would provide opportunity for sustained sociocognitive interaction between talents in different social science disciplines and subdisciplines that would prove

²²In a review of a *Darwin and facial expression: A century of research in review*, which contains four separate contributions by several different authors, as well as three pieces by Paul Ekman (known for disagreeing with Birdwhistell on the universality of facial expressions), who edited the volume, Mead argues that “[t]he narrowness and discipline-centric nature of the book is a continuing example of the appalling state of the human sciences, when members of each discipline treat their specialized approach as the only approach” (1975: 210), concluding “[t]aking all of the evidence into account would lead us towards a more comprehensive understanding of human behavior, to a human science instead of a series of one-track trains running parallel, meeting only in denigration of each other” (1975: 213).

to be symbiotic as talented individuals found themselves adopting new paradigmatic perspectives” (2004: 265). Given how strongly participants in the multiple stages of NHI felt about the need for conversations across disciplinary boundaries, it is unfortunate that today it is rare rather than expected to have a research project deliberately designed to be multi-, inter-, or transdisciplinary. This is a battle that has not yet been won.

Of the three disciplines that intertwined in NHI, linguistics and anthropology have a particularly long history of connection (the former having developed from the latter, as organized by Franz Boas in the early 1900s). Today connections between psychiatry and anthropology are rare, but they were more often connected in the 1950s. It was not chance that the applied context for NHI was a psychiatric interview. Aside from the fact that Fromm-Reichman brought a specific question related to her own context, there are several reasons why it made sense to the group. Earlier, Harry Stack Sullivan (who worked with Fromm-Reichmann) had particularly strong connections to Edward Sapir (Newman 1986; Perry 1982). Sapir had developed the ‘Culture and Personality’ school within anthropology (Sapir 1937). Equally important, both men were already known to others in the NHI group.²³ Brosin (1971c) mentions both and certainly knew Sullivan. Bateson was already working with Ruesch, as documented previously, so the psychiatric context was already one with which he was familiar. As Bateson says in his introduction to NHI, “Psychiatry was evolving away from the exclusive study of the individual patient towards the study of human relationships, most dramatically under the influence of Sullivan” (1971c: 4). Sapir’s friendship with Sullivan specifically benefitted the NHI group beyond simply setting up a model of potential collaboration and establishing the elements which fit together: Sullivan founded and edited the journal *Psychiatry* (Murray 1994: 221, fn. 39), which explains why so many of the publications related to NHI appeared there, including Bateson (1958), McQuown (1957), and Scheflen (1963; 1964; 1965).

²³Both the anthropologists and the psychiatrists recognized the impact of the early Culture and Personality studies. Birdwhistell suggested that “the primary figure in the background of the micro-cultural analysis of communication is Edward Sapir” (1961a: 47), and Sapir is mentioned throughout the entire NHI manuscript. So it makes perfect sense that Sapir’s well-known quote “we respond to gestures with an extreme alertness and, one might almost say, in accordance with an elaborate and secret code that is written nowhere, known by none, and understood by all” (Sapir 1959: 556), which appears in NHI (Birdwhistell 1971d: 21), serves as something of a touchstone for group members, and as a marker for membership in the NHI theory group (e.g., Duncan 1969). Markel, who studied with McQuown at Chicago and then Trager and Smith at Buffalo, says: “It is clear to me that Trager and Smith and McQuown, especially Trager, viewed their mission in this area of the paralinguistic and linguistic analysis of psychiatric interviews as a project assigned to them by Sapir” (in the Discussion section of Murray 1986: 288).

Psychiatry as a context was particularly valuable for the NHI project for several reasons. First, as an applied project, there was substantial interest on the part of the National Institute of Mental Health (NIMH), to support positions and grants for some of the NHI researchers (multiple publications mention grants from NIMH as supporting related research by team members in the 1960s, e.g., Duncan 1975, and Scheflen 1975; see Lempert 2019 for discussion). Second, there was an obvious audience interested in seeing results. For example, in reviewing a book on psychotherapy which includes a chapter by Scheflen on “Natural History Method”, Seeman (1972: 287) writes: “Scheflen’s paper on communicational research in therapy speaks to a theoretical perspective which is of increasing importance on the national scene [...] I would have liked more of such papers” (see Wade 1999 for a more current evaluation of what NHI offered to psychiatrists). Third, a psychiatric interview typically involved very few people, they typically sit still when they talk, the interview is scheduled, with a limited time frame, occurring indoors. All these characteristics mean the context is a particularly easy one to film (Van Vlack 1966a,b). A fourth reason may well have been the high status of psychiatry in the 1950s, and specifically of psychoanalysis.

It is interesting to consider the links between the establishment of a new theory group and inter-, multi-, transdisciplinarity. After analyzing multiple examples of theory groups (which he also terms “research clusters”), Murray concludes that “[a]lthough geographic dispersion is not necessarily fatal to cluster formation, disciplinary dispersion may be. Interdisciplinary status makes cluster formation difficult, because advancement and prestige are determined intradisciplinarily and because education and professional socialization are primarily intradisciplinary” (1994: 485). So, while the combination of disciplines leads to new insights, at the same time, that very combination may make it difficult for any of the participants to gain adequate recognition for the significance of their work.

Developing original research tools, methods, and concepts

Kendon shows the connection between multiple disciplines and new methods, tools, and theoretical assumptions: “the behavior of face-to-face interaction is not adequately encompassed by any one discipline. Though the diverse skills and knowledge such a diverse range of disciplines can provide are needed, it seems that an adequate discussion of these phenomena demands new terms and new concepts which no existing individual discipline adequately supplies” (Kendon 1975: 6). Today, recording and transcribing small details from actual behavior filmed in context is very much taken for granted as the beginning point of most

research on face-to-face interaction, and in that, NHI has had an important influence. As Kendon (1981: 456–457) emphasizes, “Detailed studies of behavior structure [...] could not be undertaken without the availability of a recording technique that makes it possible to reinspect the behavior itself. Thus we could not have witnessed the emergence of the kinds of structural analysis of behavior in interaction that we are here concerned with if a recording technology such as cinematography had not developed” (see also Kendon 1990).²⁴ Although the term “soaking” is today rarely used, the idea that multiple viewings are essential, that behaviors do not have intrinsic meaning but convey meaning in context, and that communication is multimodal, are all taken for granted.

Kinesics, as Birdwhistell tried to develop it, guided as he was at first by concepts and terminology from structural linguistics, was not brought to any successful fruition, and Birdwhistell did not succeed in formulating a transcription system for body motion in interaction that anyone else could easily adopt. By 1974, Birdwhistell’s attempt notwithstanding, Duncan (1974: 163) was lamenting that “[i]n contrast to paralanguage, there was for body motion no available transcription system which could be readily adapted to our purposes”. And no one today would use “kinesicist” as their primary identification (Birdwhistell is so identified dozens of times in NHI, both by himself and by others, and occasionally in later publications, such as Watter 2017, or Zabor 1978). But even given a focus on kinesics, elements of success can certainly be found (see Kendon 1972a, for a positive, yet critical assessment of Birdwhistell’s kinesics project; see also Kendon & Sigman 1996). Birdwhistell always stressed that kinesics was but one element in the larger communication system, that all the channels convey information through their interrelationships rather than singly, and so all of them need to be studied jointly. At least while at the University of Pennsylvania, Birdwhistell focused more on training students to become good observers and analysts of interaction than teaching them the mechanics of kinesics (Birdwhistell 1977; see Leeds-Hurwitz & Sigman 2010 for discussion). He certainly did publish on kinesics (1968c; 1970 being the best-known), but his larger concern was with communication more broadly understood, and he wrote several widely read more general publications (Birdwhistell 1968a,b; 1971e). Although today Birdwhistell is generally remembered for inventing kinesics, and the NHI project is most often

²⁴Erickson points out that NHI researchers used film, and special projectors which permitted viewing very, very slowly, but the invention of videotapes meant that this was lost. Only more recently, with the use of computers, could the technology again permit frame-by-frame viewing: “the close analysis of human social interaction cannot proceed without use of information storage and retrieval tools” (Erickson 2004: 206).

remembered for expanding our understanding of kinesics, paralanguage, and language, both Birdwhistell and NHI should be remembered more generally for the broader conclusions about communication behavior, specifically that it is patterned, learned, context-bound, multi-channel, multifunctional, and continuous (these terms appear throughout NHI, Birdwhistell uses them in his 1970 book, and they appear in many related publications by the various participants; for discussion see Kendon 1990, and Leeds-Hurwitz 1989a). So, while the details of recording body movements in the way that Birdwhistell proposed did not turn into accepted practice as he had initially intended, the underlying assumption “that bodily motion is patterned” (Kendon 1981: 456) has absolutely come to be taken for granted.

Ultimate influence of the NHI project

One final question to consider: What impact has the NHI project had on how researchers study interaction today? Despite the lack of publication, NHI had much influence on several basics that interaction scholars today take for granted.²⁵ NHI is an unavoidable “influence shadow” (or perhaps one might say it is like an “infusion”, in the background), but it is striking how scholars today provide few acknowledgments of its influence. There is now a strong preference for the study of naturally occurring interaction, for recording that interaction, much of the time choosing videotape over audiotape (so that more than language and paralanguage can be examined), and for transcribing the results in order to show the examples analyzed. As Birdwhistell says in discussing the NHI project, “The advantages of working with naturalistic settings seemed to be demonstrated, too, by this devoted and concerted effort” (1970: xi). It is now accepted that interaction is patterned and structured, that it is learned, and that it varies by context, and that the focus should be on the relationship between participants. Duncan summarizes interaction as “highly structured, rule-governed social phenomena” (1974: 180), and Kendon emphasizes “people are seen as participants in complex systems of behavioural relationships instead of as isolated senders and receivers of discrete messages” (1979: 69). Equally, the assumption that communication behavior is continuous was not taken for granted before NHI yet is widely accepted

²⁵Many of the features of interaction studies listed here are also strongly reflective of the impact of conversation analysis, especially as this was refracted through the prism of Charles Goodwin and certain others. Goodwin himself, of course, encountered both Birdwhistell and Erving Goffman (who himself has been a very big influence on interaction studies) while at the University of Pennsylvania. And he, although a partial participant in the CA fraternity, differed from them in being much broader in his approach and his insistence of using video recordings, never just audio, as the CA researchers confined themselves to for so long.

today. As Kendon points out, “so long as one is in the presence of another, all of one’s behaviour is a source of information for another, all of the time” (1979: 69). Putting the pieces together, Kendon explains that “communication in interaction is a continuous, multichannel process” (1990: 15).²⁶

Since the collection of documents that comprised the “deliverable” (to use EU jargon) of the NHI project was never actually published, it might seem surprising that it should be chosen to illustrate how a collaboration can have influence on later researchers. Asked directly about its influence, Birdwhistell bemoaned the lack of credit, yet was still convinced the project had had major influence: “There are literally scores of works that are in some way derivative – but seldom by scholars who give credit.” He was not talking about subtle, implicit connections, since he continued “at least 10 scholars have worked with the tapes and films” (undated letter to WLH, received April 23, 1984). He also concluded that:

The final tragedy of this is that we could never find the money to train the people to carry on this work. Very few people continue in training after the Ph.D. and it takes at least five years supervised instruction to record both audible and visible behavior in a micro manner. What we need is some late maturing scholars who are not forced to hurry to publication or fund raising. On the other hand, any serious student of either audible or visible communicational behavior can test or expand our work. (Birdwhistell, letter to WLH, July 26, 1987)

Rather than judging the impact of the project solely based on either publication or acknowledgments, we can use an alternative measure, one which Birdwhistell suggested (discussing someone else’s research) in a book review: “Its merit will emerge as its effect on other researchers can be measured” (Birdwhistell 1961b: 108). We think the indications are that its merit has well emerged, using this kind of measure.

Similarly, when Winkin asked permission to translate several chapters into French (for the book published as Winkin 1981), McQuown wrote: “It is regrettable that there has been no follow-up of the many openings to research presented in NHI (generally available since 1971) but that is an oft repeated phenomenon of research initiatives which are ‘out-of-phase’ with other work in the field, or fields, of the particular period” (McQuown letter to Winkin, June 5, 1981). A decade later Brosin provided a far more positive evaluation: “I think the study of micro-linguistics-kinesic human behavior, which was born at CASBS with

²⁶Continuous behavior is also called a “stream” repeatedly in NHI, and often in later publications, such as Condon & Ogston (1967).

McQuown / Hockett / Birdwhistell, will reach fruition when dedicated talented people continue these very difficult studies. Current research has not yet caught up to 1956 in the study of synchrony – three cheers for CASBS!” (Brosin letter to Philip Converse, December 12, 1991). It is perhaps relevant to remember that he was speaking as a psychiatrist, someone who benefitted from the analysis of therapist interviews, rather than as the one analyzing the data and worrying about passing on analytic techniques, in the same way that McQuown and Birdwhistell did. Were Birdwhistell and McQuown right that the NHI had little follow-up? The answer depends on what sort of follow-up is meant. If follow-up would imply large numbers of scholars who now study kinesics, proxemics, and paralanguage, then clearly the answer is not so much. Kinesics never took off the ground, although the study of gestures, substantially developed by Kendon, a member of the NHI theory group, certainly did; body movements are today studied as parts of a larger whole, often by those using the term “multimodality”. Paralanguage is often included in conversation analysis or discourse analysis, and in those same studies of multimodality. Clearly the study of language has greater numbers of followers, whether in linguistics or communication. But there are far more studies of naturally-occurring behavior, and virtually all of these record interaction in order to study it in detail, even if not quite the level of microanalysis that NHI proposed, and most take for granted that interaction is patterned, learned, context-bound, multichannel, multifunctional, and continuous, just as the NHI researchers did. While the early term for the type of analysis used in NHI was “natural history” (starting with the title), later terms included both “structural analysis” (preferred by Duncan) and “context analysis” (preferred by Scheflen); see Kendon (1981; 1990), and Leeds-Hurwitz (1987; 2005), for further information about who used which vocabulary when. While the phrase “natural history” has occasionally been reprised (e.g., McDermott & Raley 2011), today none of these terms is widely used; instead, “microanalysis” (another term often used in NHI) seems more common (e.g., Erickson 1992; 2004; Goffman 1983; Gordon 2011; Kendon & Sigman 1996; Rampton 2013; Wieder 1999).

In the process of developing their research techniques and theoretical assumptions, the core NHI members trained the next generation of researchers. Once the project devolved into small groups working with McQuown at Chicago, Birdwhistell at EPPI and Brosin at WPIC, there was time and opportunity for both. McQuown brought in Starkey Duncan; Birdwhistell brought in Albert Scheflen;²⁷ and Brosin brought in William Condon. But this is too rigid: in fact, there was

²⁷Technically Scheflen brought in Birdwhistell to EPPI, but Birdwhistell returned the favor by bringing Scheflen into the NHI theory group.

enormous overlap between the groups. For example, Sarles, who studied with Smith and Trager at Buffalo and McQuown at Chicago, and who was part of the team at WPIC, specifically mentions Birdwhistell's influence on him (Sarles 1975: 19, note 1). Similarly, Zabor studied first at the University of Pennsylvania with Birdwhistell, volunteered at EPPI and worked with the NHI materials just after the project ended, studied at the University of Chicago with McQuown and Duncan, and then wrote about NHI for her doctoral dissertation at Indiana University (Zabor 1978: 386). Scheflen moved on to a project in New York (which Kendon joined). So, the people who went on to develop microanalytic techniques came through the forge of NHI, or, as in the case of Kendon, were much influenced by its work, once they became aware of it. The fact that Scheflen, Duncan, Condon were all first associated with NHI and then all accepted as the next generation of interaction scholars provides evidence of impact. The fact that a slightly later cohort, including Frederick Erickson and Ray McDermott, also stress the significance of NHI to their research, provides further evidence of impact. Whether the term used by a particular researcher is language and social interaction, ethnography of communication, conversation analysis, discourse analysis, ethnomethodology, multimodality, gesture studies, or embodied communication, there is a significant debt owed to NHI. Such a debt is rarely explicitly recognized any longer by most of those who owe it if they were not in some way part of the larger theory group, but that does not make it any less real.

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