

Silence in the Second Language Classrooms of Japanese Universities

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Japanese language learners' proclivity for silence has been alluded to by various writers (e.g. Anderson 1993; Korst 1997; Greer 2000) and is supported by plenty of anecdotal evidence, but large-scale, empirical studies aimed at measuring the extent of macro-level silence within Japanese university L2 classrooms are notably lacking. This article responds to the gap in the literature by reporting on an extensive, multi-site study which used a structured observation methodology to investigate the classroom behaviour of 924 English language learners across nine universities. A total of 48 hours of data were collected using a minute-by-minute sampling strategy which resulted in some surprising results. Students were found to be responsible for less than one per cent of initiated talk within their classes, while over a fifth of all class time observed was characterized by no oral participation by any participants, staff, or students alike. These results are interpreted from a dynamic systems theory perspective, which suggests that silence emerges through multiple routes and has now formed a semi-permanent attractor state within the study's L2 university classrooms.

INTRODUCTION

Student silence in the classroom is widely perceived as a serious problem for many educators. This is particularly so in second language learning contexts as a large body of literature has illustrated how oral interaction and production of the target language can significantly aid L2 development (e.g. Long 1996; Izumi 2003; Swain 2005). Yet the curious fact is that hardly any empirical research has targeted the issue of silence, particularly when it happens in language classes. Indeed, as a subject for study, the often-ignored phenomenon of silence is both potentially fascinating and problematic in equal measure. Investigating something as intangible as silence, something that can be neither seen nor heard, poses real challenges for researchers. There are multiple ways to define silence and, concomitantly, multiple ways to go about the business of studying it. For example, ethnographic approaches (e.g. Philips 1976; Basso 1990; Agyekum 2002) relying on unstructured observation to investigate silence within specific speech communities have been particularly fruitful in producing a rich seam of data; however, empirical, quantitative studies using a more systematic observational method to measure the existence of silence within specific contexts, especially educational contexts, are

notably lacking. This study helps to fill this gap by applying a systematic, structured observation methodology in a large-scale, multi-site investigation to focus on the silent behaviour of over 900 Japanese university language learners. An original classroom observation instrument, the Classroom Oral Participation Scheme (COPS), employing a real-time coding approach, was developed specifically for the study. The evidence produced by the COPS, in the form of empirical, statistically-based data, suggests there is a strong trend towards silence in Japan's second language classrooms. Characterized by reluctance, inability or lack of opportunity to speak, the silence uncovered over the course of study's 48 hours of structured observation is interpreted from a dynamic systems perspective. Although not suited to measuring the extent to which relevant variables are interconnected or how their influence may shift over time (both key characteristics of a dynamic system), structured observation does provide an ideal methodology for identifying seemingly fossilized attractor states in the form of core trends related to learners' classroom behaviour. A dynamic systems theory (DST) approach is so useful for silence researchers because it offers great flexibility. It provides an over-arching conceptual framework through which to view entrenched silent behaviour at individual, classroom, institutional, and societal levels, while at the same time not precluding the use of other theoretical approaches to explain specific silence episodes. Silence is such an inherently ambiguous and varied phenomenon that its study necessitates the flexible, interdisciplinary approach which DST allows.

SILENCE WITHIN AN EDUCATIONAL CONTEXT

A number of scholars have pointed to a variation in silent pause length between specific cultural groups (Scollon and Scollon 1981; Tannen 1985; Enninger 1991; Jaworski 1993), with the Japanese having a supposed proclivity towards silent, implicit, and non-direct forms of communication (see Lebra 1987; Clancy 1990; McDaniel 2003). Even so, various writers have challenged the cultural stereotype of the silent, passive Asian learner who relies on rote learning (e.g. Kember and Gow 1991; Cheng 2000; Littlewood 2000). Although such arguments against monolithic cultural constructs and simplistic dichotomising binaries which do not reflect the complexity of reality (i.e. the silent East versus the talkative West) should be applauded, it is undeniable that cultural differences patently do exist, and, in conjunction with other variables, do affect learner behaviour. Unhelpful generalizations about learner silence can best be avoided by basing our conclusions on reliable, empirical classroom research. A good example of such an approach is Sato's (1982) observation study which analysed the turn-taking behaviours of learners in her own English as a Second Language (ESL) class. Sato found her East Asian ESL students (from countries such as Japan and Korea) took significantly fewer turns at talk than their non-Asian counterparts because they tended to bid for fewer turns and were nominated less by their teacher. Focusing specifically on

the silences of Japanese sojourners at Australian universities, Nakane's (2006, 2007) rigorous mixed methods research is also supported by empirical data and has identified that Japanese learners are indeed likely to be, and perceived as, non-vocal. However, Nakane found the causes and types of silences Japanese learners display differ widely among participants and most importantly across *specific classroom contexts*.

Turning our attention away from studies which deal specifically with the oral passivity of East Asian learners, Granger (2004) takes the highly original stance that psychoanalytic theory provides the richest source of answers as to why learners may remain silent during the second language acquisition (SLA) process. Granger departs from the study of silence as a communicative strategy (cf. Saville-Troike 1985; Braithwaite 1990; Jaworski 1993) and instead considers 'the silent period' as a manifestation of a learner's identity formation and re-formation during the early stages of acquiring a new language. The relevance of her work to Japanese university L2 learners is intriguing because these students tend to enter university as *false beginners* despite years of pre-tertiary language education (see Helgesen 1993). Other researchers have also made the link between student silence and psychological factors. For example, Gilmore's (1985) ethnographic study of silence within a relatively deprived, inner-city African-American high school found that while the teachers under her observation tended to utilize silence as a means for controlling student behaviour, the silent displays of students were often employed as an emotional defence against the teacher's authority and as a way of passively expressing negative emotions. Even though the classroom silences Gilmore observed had an almost uniformly negative interpretation because they were associated with defiance, conflict, anger, and misbehaviour, there do exist a small number of works (e.g. Li 2001; Reda 2009) which assign silence in general education contexts a much more positive valuation. Silence certainly can provide learners space for cognitive processing and thus act as 'a facilitative device enabling students to gain access, organise and absorb new material' (Jaworski and Sachdev 1998: 286).

DST AND THE ROLE OF ATTRACTOR STATES

Originating from a branch of mathematics and well established in the natural and social sciences (de Bot *et al.* 2007), DST has only relatively recently come to the fore as an exciting theoretical framework within the field of applied linguistics. Led by Larsen-Freeman (1997) with her seminal work on chaos theory and SLA, an increasing number of researchers (e.g. de Bot *et al.* 2005; Ellis 2007; Larsen-Freeman and Cameron 2008; van Geert 2008; Dörnyei 2009) have begun to look to DST and the closely related strand of complexity theory as a move away from traditional linear, cause-effect explanations of language production, and language learner behaviour. A DST framework reflects the complexity of real life in that it recognizes that human behaviour is

continuously influenced by multiple, interrelated variables which constantly change over time.

Applying this notion of complexity to silence occurring within language classrooms allows us to conceptualize the absence of talk as being a dynamic construct which is determined by an array of competing forces. Although some instances of silence may reflect the passivity, demotivation, or lack of ability of a learner, it should also be acknowledged that silence has the potential to be an active state too. Indeed, students may *choose* not to speak for any number of reasons. The dynamic nature of this choice is reflected well in MacIntyre's (2007) belief that the decision to speak is a volitional process requiring 'the coordination of a set of driving and restraining forces that may operate with or without the speaker's explicit awareness' (573). Put into the parlance of DST, these forces are known as *attractors*.

One important feature of dynamic systems particularly relevant to this study is that, as systems develop, a period of relative stability may be achieved due to the influence of attractors and their ensuing *attractor states*. Dörnyei (2010) points out that attractor states are like powerful magnets which may be internal (e.g. connected to the learner's cognition) or external (e.g. related to the sociocultural environment) and that they act 'as "safe islands" towards which the system gravitates in its inherent search for equilibrium' (3). Another good analogy common to the literature is that of a ball rolling over a surface covered in holes of various sizes, some of which are gathered together in basins. As the ball (representing, say, a learner's discourse) rolls along, it is pulled towards a hole (signifying an attractor). An attractor state is apparent when the ball becomes firmly ensconced within a hole. Attractors of certain behaviours—including the behaviour of remaining silent in a language classroom—may vary in their individual strength, but once a system (in our case, a classroom discourse system consisting of learner's classroom talk sub-systems) has organized itself into a settled attractor state, force is needed to push the system out of its equilibrium (Larsen-Freeman and Cameron 2008). Therefore, the stronger and more numerous the attractors drawing a learner's discourse activity towards the state of saying nothing, the more energy is needed to push the system into a state of flux whereby the learner talks. Attractor states may initially be apparent at the level of the individual but have the potential to operate at group, institutional, or societal levels depending on the strength of the behaviour trend.

This study offers an empirical examination of the extent of this phenomenon and reflects on the value of adopting a DST perspective to interpret its results. It should be noted though that the data presented here is primarily cross-sectional in nature and therefore does not allow one to go beyond what is essentially recognition of similarities and resonances with DST. To fully illustrate the evolution of silence, research using in-depth qualitative interviews and retrospection is needed (both of which approaches the author is currently engaging in). MacIntyre and Legatto's (2011) innovative idiodynamic-based stimulated recall study focusing on willingness to communicate during L2 communicative

tasks provides an illuminating example of what can be achieved when such an approach is employed in tandem with a DST conceptual framework.

METHOD

Participants

Japan's tertiary education sector is made up of three basic types of university: national (run by the state), municipal (run by local authorities), and private. As of 2009, when this study began, a total of 773 universities were operating in Japan of which 86 were national, 92 were municipal, and a massive 595 (77.0 per cent) were private (MEXT 2010: 85). To reflect this variety of tertiary institutions, the project employed a dimensional sampling strategy which resulted in a multi-site study comprising nine universities (Table 1). Data were collected from one municipal, two national, and six private universities located in rural, urban, and metropolitan sites across Japan's main island of Honshu.

When selecting classes for observation, the primary aim was to obtain a sample that was as large and diverse as possible. Such a heterogeneous class sample provided the potential to identify core trends and behaviours more relevant generally to Japan's varied tertiary education system. Access was therefore gained to 30 different classes with an overall student population of more than 900. These classes focused primarily on improving students' practical English language abilities and included activities practicing all four skills, in addition to instruction on such things as communication theory, translation techniques, and so on. Twenty of the classes were for first years; seven were for second years; one was a third-year class; one contained postgraduates; while another was made up of a combination of students from years one to four. Thirteen of the classes were for English-related majors; students from other faculties, such as law, economics, and engineering, made up a further 16 classes (English tends to be a compulsory subject at university regardless of one's field); and one group included a mixture of both English and non-English majors. Class sizes ranged from just nine students to 103 (the latter being a huge communicative English class which the instructor handled with aplomb), with a mean attendance of 28.73 per group. The student sample ($N = 924$) achieved a reasonable gender distribution—52.92 per cent were male

Table 1: Participating universities by type

	Private	National	Municipal
Phase 1: Obs 1–27	2	1	1
Phase 2: Obs 28–48	6	1	1
Total sites	6	2	1

Obs, observations

and 47.08 per cent female. In order to avoid the assumption that any silence encountered during the study would purely be down to a deficiency in students' L2 abilities, the sampling strategy ensured learners of varying proficiencies were observed. At a minimum, the cohort had received the compulsory 6 years of English language education that is a requirement for all Japanese entering junior high school at age 11 years. In the end, the student sample provided an excellent mix of levels, and this was well illustrated by participants who were clearly from both ends of the L2 aptitude spectrum.

Instrument

To obtain reliable quantitative data on the extent of student silence in classes, the study employed a systematic observation approach using a low-inference scheme. Inspired by the design of Spada and Fröhlich's (1995) COLT and the content categories of Moskowitz's (1971) FLint, this study stayed true to observation researchers' penchant for acronyms to produce the Classroom Oral Participation Scheme (COPS). This structured observation scheme (see online supplementary material for appendix) was developed specifically so that a minute-by-minute picture of classroom events could be recorded in real time, with emphasis on the scrutiny of oral participation throughout the lesson. The COPS consists of two sections, both of which are divided into 60 one-minute segments—this hour-long timeframe was found to be ideal for ensuring a standardized length of observation throughout the study, thus mitigating late lesson starts and early finishes. Two things ensured the validity of the instrument. First, it was designed to be a highly structured scheme of the low-inference type requiring the observer to tally rather than infer classroom events. In this, the COPS fully follows Part A of the COLT's reliable method of real-time coding. The second point is that the author paid special attention to piloting (see below) so that use of the scheme became an almost automatic, routine undertaking. As such, the instrument offered an almost foolproof method of recording classroom events.

The COPS's first section concentrates on the overall participant organization of oral interaction within the class. Using an *exclusive focus* coding approach (see Spada and Fröhlich 1995: 31–32) in nine categories, this part of the scheme measures who is speaking within the classroom and how the interaction is organized. Hence, by obtaining data on who is talking and how this talk is arranged, we can conversely learn much about those who remain silent during the course of a lesson. The first section's categories are as follows:

Teacher (initiated): Talk, in the form of asking questions, presenting information, providing feedback, giving task instructions, and so on, which is initiated by the teacher and to which the majority of students are exposed to.

Teacher (response): Talk in which the teacher responds to questions or solicits posed by students.

Student (initiated): A student produces an unsolicited turn at talk to which the majority of class members are exposed. The learner initiates oral interaction through an unexpected question or statement.

Student (response): Talk in which a student responds to a question or prompt by the teacher. The interaction may be either a self-selected turn or a response to being individually nominated. Talk in this category includes students giving presentations after having previously been invited to do so by the teacher.

Students in a pair/group (single): Talk involving a single pair or single group of students, usually modelling an exchange, to which the rest of the class is exposed to.

Students in a pair/group (multiple): The whole class is organized into pairs or groups in order to perform speaking tasks such as discussion, role play, and so on.

Choral: Talk in the form of a choral speaking drill during which the class repeats after the teacher or in response to another source, such as a tape recorder.

Off-task melee: The majority of the class are no longer on-task, but are instead involved in raucous L1 chatting with peers, often involving much laughter.

Silence: No oral interaction on the part of participants. Included in this category may be the periods when audio/audio-visual equipment (recorded as 'A' or 'AV' instead of a tick on the observation schedule) is playing. Each extended silence is briefly further described in the *Task outline/Notes* section on the right of the scheme.

The second section of the COPS aims to provide a more in-depth analysis by focusing on the modality of three individual students within each class. As with the first, this section follows a one-minute time sampling format, thereby allowing a chronological representation of each student's modality to be constructed over the course of a class period. As this study is primarily concerned with the extent of oral participation by students in foreign language classes, coding within this section is weighted towards how talk performed by the students is organized. Thus, *talk* is coded into four categories reflecting those found in the first section of the scheme. These four categories code whether the individual student's talk is a response or an initiated interaction that the rest of the class are exposed to; whether the interaction takes place within a pair/group; or whether the talk is part of a choral exercise. Helping to uncover where oral input is coming from, the COPS then divides *listening* into three categories: listening to the teacher; listening to a student or students; and listening to audio equipment. The next skill of *reading* comprises two modes: reading aloud and silent reading. The final two categories are *writing* and *off task*. The latter category covers such popular student activities as sleeping, playing with a mobile phone, and so on.

Obviously, a student may perform a combination of skills at any one time or successively within the minute-long observation segment. Where this occurs, the COPS employs a primary focus coding convention (Spada and Fröhlich 1995) whereby the skill deemed to be the most significant and which takes up the majority of the segment is the one noted on the observation scheme. As with any structured observation scheme, there is always the danger that a restricted set of predetermined categories may not accurately reflect the rich variety of events which can occur within classrooms. Even so, constructing a list of all the potential behaviours undertaken by participants would indeed be a Sisyphean task. The COPS avoids the unworkable confusion of endless coding categories by limiting its focus to low-inference classroom activities and participant behaviours which are related to the research question and which have been identified during a process of careful piloting. A final feature of the scheme which further offsets the potential drawbacks of restricted coding categories is the inclusion of space for the observer to make brief notes in parallel to the in-time sampling data. Although by necessity these notes have to be extremely concise, it was found over the course of the study that they were invaluable in providing extra contextual detail to events recorded on the scheme.

Procedures

The instrument and research procedures were thoroughly piloted prior to the main study. A series of full-length pilot sessions resulted in modifications to the COPS which refined its coding categories and thus enhanced the instrument's validity and general ease of use. Initially, the scheme attempted to code the individual modality of five students. However, this proved unmanageable for a single observer and so, following further testing, it was found that the optimum number of individual learners who could be reliably monitored was three. This phase of the project proved essential in confirming that a methodology using structured observation was indeed appropriate to both the study's context and research aims. In addition, piloting the instrument provided the researcher with valuable practise at achieving speed and consistency at data entry.

The main study consisted of two phases of data collection culminating in a total of 48 classroom observations, all of which were performed by the author. The initial phase of research took place over two months during the second semester of the 2009/2010 Japanese academic year. This timeframe, during November and December, was chosen specifically in order to avoid examination periods and the beginning of the academic year—a time when the inhibiting, silence-inducing effects of attending an unfamiliar, new class may be at their height. During this initial collection phase, multiple observations of the same class were used in order to enhance the reliability of findings. Nine classes (six taught by anglophones and three by Japanese instructors) were therefore observed on three separate occasions producing 27 hours of data. While such an approach allowed for each class to be studied with relative

depth, the second, follow-up phase of observations provided an element of breadth to the study. During this secondary stage, which was initiated in an attempt to discover whether the surprising findings of the first phase would be replicated more broadly within Japan's varied tertiary system, single observations of a further 21 classes (17 taught by anglophones and four taught by Japanese instructors) took place in the latter half of the 2010/2011 academic year's first semester. During both phases of observations, various measures were taken to combat reactivity among participants. For example, the researcher attempted to 'blend into the woodwork' (Murphy 1992: 224) and reduce his presence by taking up a non-intrusive seating position from which to observe proceedings.

As part of the study's attempt to build up a picture of how student modality impacts upon oral participation, at the beginning of observations three individual students were chosen from each class group for closer scrutiny so that minute-by-minute accounts of their actions could be recorded over the class period. A sampling strategy, based on sex, seating position, and whether there was clear line of vision for the researcher was employed when selecting these students, who remained unaware that they were being observed in order to preserve natural behaviour. During the initial data collection phase involving multiple observations of single classes, the same three students were monitored for each of the three one-hour observation periods. It is perhaps a testament to the great emphasis placed on attendance as the primary means of passing university courses in Japan (see Clayton 1993; McVeigh 2002: 130–2) that only two from a cohort of 27 individually observed students had a whole-class absence during this first data gathering phase. In all, the modality of 90 individual students was coded over the course of the entire study.

All coding on the COPS was performed in real time during the study's 48 one-hour observation periods. Using interval recording, whereby the researcher placed ticks in appropriate categories to record what had happened during the preceding minute, a chronological representation of classroom events, from both a whole-class and individual perspective, was systematically generated. Teacher talk in both Japanese and English was coded, as was the on-task talk of students in either language. The researcher, ever careful to maintain a non-intrusive, passive role within the classrooms he visited, opted to audio record lessons for later analysis rather than videotape them because of the potential for video cameras to be highly distracting for participants and their tendency to encourage atypical behaviour (see Dörnyei 2007: 184–5).

RESULTS

The tally marks in each variable column on the COPS sheets were added together so as to provide the total number of minutes that a particular behaviour or activity had occurred during each observed lesson. From these totals, it was then possible to calculate the mean average time each observed data variable occurred over the course of the study, with the unit of analysis being

one lesson. Table 2 illustrates tally mark totals (i.e. minutes) and average percentages of observation time coded for the COPS's first section of nine categories focusing on oral participation at a whole-class level. From these results, we can see that the instructors in the sample clearly dominated classroom talk, with approaching half of all lesson time having been taken up by teacher-initiated discourse. Interestingly, the medium of instruction appears to have had little effect on the incidence of student-initiated talk. Whether the instructor spoke in English, in Japanese, or in a mixture of both languages seems to have made little difference here. Of course, it is hardly surprising that teachers should dominate classroom discourse when we consider their institutional role and the silence-inducing power imbalances which exist between staff and students (see Gilmore 1985; Jaworski and Sachdev 1998), but the contrast with the incredibly low incidence of student-initiated talk is surprising. With less than a quarter of one per cent of lesson time in the study consisting of students producing self-selected turns at talk in front of their peers, a picture emerges of Japanese university language learners who are profoundly silent and orally inactive while lessons are in progress. Of the seven coded incidences of student-initiated talk over 48 hours of observation, three were produced by learners already highly proficient at English—one came from a so-called *kikokushijo* (returnee) (see Kanno 2003) who had received his secondary education in the USA's school system, while postgraduate students at one of the country's top national universities attending an intimate seminar-style English class which included two non-Japanese East Asian learners provided a further two instances. Although limited, these examples suggest that enhanced opportunities for intercultural communication encounters may encourage learners to initiate discourse in the target language. Certainly, this is backed up conceptually by Yashima's (2002) work which has shown that increased international posture significantly contributes to Japanese learners' willingness to communicate in L2.

The results concerning individual student modality serve to back up the COPS's findings on oral participation from a whole-class perspective. Table 3 reveals a low mean average incidence of student-initiated talk among the 90 students who were individually monitored on a minute-by-minute basis throughout observation periods. While spending less than one-twentieth of a single per cent of their time initiating discourse, these students actually spent the majority of the class time (37.33 per cent) listening to the teacher talk. In an incident which aptly illustrates the rarity of student-initiated discourse within the Japanese tertiary context, at the conclusion of one observed class for language majors preparing for study abroad, the teacher, unprompted by the researcher, expressed great surprise that a student had asked her the simple unsolicited question 'What is the date today?' in English.

Table 2 further reveals that oral participation in the form of a single pair or single group of students talking, usually modelling exchanges to peers, made up just over two per cent of class time. As with the student initiated talk and student response talk categories, it is important to note that even though these

Table 2: Whole-class oral participation results

	T initiated	T response	S initiated	S response	Ss pair/ group single	Ss pair/ group multiple	Choral	Off-task melee	None	Total
Phase 1: Obs 1–27	759	4	4	88	34	188	49	24	470	1,620
Phase 2: Obs 28–48	538	2	3	62	27	278	48	48	254	1,260
Total (min)	1,297	6	7	150	61	466	97	72	724	2,880
Mean per class	45.03%	0.21%	0.24%	5.21%	2.12%	16.18%	3.37%	2.50%	25.14%	100.00%

T, teacher; S, student; Ss, students; Obs, observations.

Table 3: Individual student modality results

	Talk response	Talk initiate	Talk pair/group	Talk choral	Reading aloud	Reading silent	Writing	Listening to T	Listening to S/Ss	Listening to audio	Off task	Total
Phase 1: Obs 1–27	30	2	263	75	47	307	486	1676	305	362	1,158	4,711
Phase 2: Obs 28–48	10	1	325	37	28	275	278	1,494	407	351	574	3,780
Total (min)	40	3	588	112	75	582	764	3,170	712	713	1,732	8,491
Mean per class	0.47%	0.04%	6.92%	1.32%	0.88%	6.85%	9.00%	37.33%	8.39%	8.40%	20.40%	100.00%

interactions do involve students speaking, while they are in progress, the majority of class members remain resoundingly silent. Nevertheless, we can see that in comparison, oral participation by multiple pairs/groups is a relatively more common phenomenon in Japanese university language classrooms. This was particularly so during the second phase of data collection which involved an increased number of observations of classes for foreign language majors where a more communicative approach held sway (the ratio of non-language to language majors in the first phase of observations was 2:1; whereas in the follow-up phase, there was an equal ratio, with one additional mixed group). The relatively unstructured nature of such multiple pair and group work appears to make off-task melees more likely, and this seems to be borne out by the increase in such incidents during the second phase of the study. If we consider silence from a pragmatic rather than an acoustic perspective (Jaworski 1993), even though such melees may be periods of intense noise, the concomitant lack of relevant target language talk on the part of students means they are also periods of learner L2 silence.

Even though the observed use of oral practice in multiple pairs/groups reflects a movement away from conservative teacher-centred methods of instruction that has been steadily growing in Japan since the 1970s, the amount of class time spent on these communication-orientated activities was far exceeded by the number of coded episodes in which no oral participation took place whatsoever. Table 2 shows that over a quarter of class time in the study was characterized by silent behaviour by *all* participants, both staff and students alike. Furthermore, as revealed in Table 3, for more than half of their class time, student participants were engaged in the task of listening—either to the teacher, to other students, or to audio equipment. Coupled to the fact that over 20 per cent of students' time was consumed by being off task and disengaged from the learning process, we can see there only remains a thoroughly condensed opportunity, which appears to be rarely taken, for learners to orally participate in class.

DISCUSSION

Clearly then, with its microperspective focus on both whole-class and individual activity, the COPS has provided empirical quantitative evidence of a robust trend, with minimal variation, towards silence within the Japanese university foreign language classrooms that were observed. To date, there have been various attempts to explain the silent reticence of East Asian learners based on such factors as: their inherent shyness (Doyon 2000); difficulties in bidding and turn-taking behaviours (e.g. Sato 1982); the washback university entrance exams have on speaking skills (see Brown and Yamashita 1995); resistance to a repressive education system (Yoneyama 1999); or a general lack of L2 socio-linguistic ability (e.g. Korst 1997; Jones 1999). However, when there is such a powerful pattern of silence across such a diverse sample, as is evident in this study, a single-cause explanation for students' oral reticence is unlikely.

Clearly, the general state of silence found in Japan's L2 classrooms is built on many pillars. This is, in fact, almost exactly what a DST perspective would suggest as the paradigm rejects traditional linear, cause-effect explanations of language production and language learner behaviour.

DST provides a useful theoretical framework from which to interpret the silence found in this study because it acknowledges that human behaviour is constantly shaped by numerous, interconnected variables. We should view silence as a phenomenon emerging through a number of routes, termed attractors in DST, which exert an influence at a variety of different levels, for example at individual, classroom, institutional, and societal levels. Indeed, this study's data suggests these attractors appear to be so numerous and powerful within the observed Japanese university L2 classrooms that silence has now fossilized there into a semi-permanent and relatively predictable attractor state. In order to illustrate some key agents attracting students' silent behaviour, below are five conceptions of silence which became apparent during the study:

The silence of disengagement. The manifestation of boredom, apathy, and inattention, the silence emerging through this route is often found lurking in large, teacher-centred, lecture-style language classrooms. This type of silence was possibly the most prevalent within the study and was unquestionably dominant within compulsory English language classes for non-language majors. Of the students whose individual modality was observed during the study, perhaps ST20 (M) personifies this type of silence best. During the three hours that his behaviour was coded in a second year English class for non-language majors, ST20 spent 73.89 per cent of the time asleep. Within the class, this was not particularly out-of-the-ordinary behaviour, reflecting an acceptance of sleeping within Japan's wider education system (Steger 2006). On the two occasions ST20 did orally participate during the lesson, both instances consisted solely of him uttering 'hai' (yes) in a rather drowsy response to being nominated by the teacher. Each time, unable or unwilling to answer the teacher's question further, ST20 remained unflinching silent until eventually the storm passed and another unfortunate victim was called upon.

The silence of teacher-centred methods. This type of silence is inexorably linked to the silence of disengagement. The decisions that teachers make concerning the pedagogical technique they employ with a class, in addition to their choice of lesson materials and task activities, can have a profound effect on whether classroom discourse systems are pulled towards a pattern of non-participation. It became apparent over the course of observations that a strong trend exists within Japan's university L2 classrooms, particularly where compulsory English classes for non-language majors are concerned, for lessons to be dominated by a rigid Initiation Response Feedback pattern (Sinclair and Coulthard 1975; see also Larsen-Freeman and Cameron 2008: 179–82) which requires only minimal or single-word responses from learners. Indeed, open-class solicits almost inevitably resulted in no learner response at all. Teachers' attitudes

and beliefs about language learning play an important role here. In the Japanese context, *yakudoku* (a grammar-translation approach) remains a deeply entrenched teacher-centred instructional method (see Hino 1988; Gorsuch 1998) which effectively silences students by severely limiting their chances to vocalise English.

The silence of nonverbal activities. For extended periods of class time students were on task and engaged in activities which did not require talk and during which it would have been either difficult or inappropriate to speak. For example, referring to Table 2, of the 25.14 per cent of lesson time in the study when there was no oral participation by any participants, 10.73 per cent was absorbed by students listening to audio equipment (the *listening audio* figure is slightly lower in Table 3 due to coded off-task behaviour among the individually tracked students). Aural activities aside, according to Table 3, around 15 per cent of students' time was spent either writing or silently reading. The silent behaviour of learners here does not necessarily present a threat to their general L2 development but it does illustrate the narrowing of an already limited opportunity to speak in the target language in class. This silence reflects McCarthy's (2000: 91) notion, based on data from the CANCODE corpus, that there exists an intimate relationship between language and action which means that tolerance to silence during a period of activity becomes longer than would be acceptable during casual conversation.

The silence of confusion. The very first observation of the main study provided a good example of a scenario during which silence through confusion emerged. During the lesson, it was observed that most learners within the group, upon encountering even the most basic L2 input, required time in order to decode utterances and then to formulate an appropriate response. The COPS does not record such hesitations unless they develop to become the most significant phenomenon within the coding interval. Even so, this silence as cognitive processing time (see Chafe 1985; Nakane 2007: 91–2) may, of course, eventually extend into the silence of confusion. Lack of L2 ability, unfamiliarity with topics/tasks, problems with the delivery of the teacher's talk, and so on may all lead to the failure of learners to orally respond because of confusion. During this first observation, an instance of this type occurred at a whole-class level when there was prolonged silence after students failed to begin a speaking activity following some rather convoluted task instructions by the teacher. It should be noted though that not all confusion within the language classroom is genuine. McVeigh (2002) points out that some university students in Japan may feign confusion and 'play dumb' as a strategy for passively resisting an education system in which they feel virtually powerless.

The silence of hypersensitivity to others. As Ehrman and Dörnyei (1998: 119–22) rightly argue, shame and embarrassment are factors which can have a powerful effect on the defensive behaviour of students in the classroom. If we

consider these two malevolent influences, coupled to the Japanese enculturated notion of an ever-watching 'other' which results in an egocentric concern for presenting the self in an acceptable light (see Clancy 1990; Lebra 1993; Greer 2000), yet another route through which silence becomes apparent emerges. Many learners are simply unwilling to engage in the potentially embarrassing behaviour of active oral participation for fear of being negatively judged by their peers. Silence as a defensive strategy is the much preferred option. This theme of excessive self-monitoring is taken up by McVeigh (2002) who squarely lays the blame for unresponsive students on *seken*, which he translates as 'the official gaze'. 'Once deeply internalized beyond conscious awareness, the official gaze is transmuted into a horizontal gaze (i.e. among peers), thereby encouraging a conspiracy of deafening silence in the *daigaku* [university] classroom' (McVeigh 2002: 197). The routes towards hypersensitivity and feelings of embarrassment are, in true DST fashion, various and ongoing in that they relate not only to the individual students' mental characteristics, but also to the sociocultural environment.

Although the above examples are far from an exhaustive taxonomy of forces attracting silent behaviour in language classrooms, they are salient and typical ones and they do illustrate that meaningful discussion of the complexity of classroom events needs to include learner-internal *and* social factors as contributors to the paradigm. This is at the heart of taking a dynamic systems perspective and acknowledges the importance of taking into consideration the 'sociocultural maze' of contextual issues (Dörnyei and Ushioda 2011), particularly as a starting point in the DST approach. As the attractor state of silence is educationally and culturally supported in the Japanese context, learners' classroom talk systems appear to be easily drawn towards it. To not orally participate in one's foreign language class is deemed, by both students and teachers alike, to be normal behaviour. Silence therefore exists as a relatively stable state within individual, classroom, institutional, and national-level systems after having emerged from a wide range of starting points. Even though this study suggests that there is a strong trend towards silence in which various attractors work together to make student reticence a semi-permanent attractor state, we should still not consider the roots of learners' silent behaviour to be static or linear. In other words, within a single lesson there may be multiple, interrelated causes for a student's silence influenced by both dynamically changing external factors and internal learner attributes. de Bot *et al.* (2007) have termed this *complete interconnectedness*. For example, in the case of ST20, the somnolent student described previously, his silence may be related to any number of dynamically changing, interconnected aspects, such as psychological inhibition, lack of L2 ability, exposure to a teaching method restrictive of student talk, growing up in a culture whose discourse norms encourage reticence, dislike of his instructor, or even the ill-effects of a bad bout of insomnia. Further in-depth qualitative research would be able to effectively trace back the roots of his silent behaviour.

CONCLUSION

This study employed a novel approach to gather empirical, quantitative data on the silence of Japanese university language learners through its use of a specially developed classroom observation instrument called the COPS. Focusing on the macro-level silence of non-participation, rather than on the micro-silences of pauses and hesitations more suited to conversation and discourse analysis, the COPS uncovered a strong tendency for students within the study to remain silent in their language classrooms. It had been expected that some silence would be discovered in the course of the research but not on the scale that materialized. The data produced by the COPS were indeed surprising, most noticeably regarding the lack of student-initiated talk observed during lessons. Evident from both the whole-class oral participation and the individual student modality coding categories, less than one per cent of class time was taken up by talk of this type. Furthermore, despite a growing movement towards a communicative teaching methodology in Japan, the amount of time spent on communicative activities was significantly exceeded by the number of coded instances where there was no oral participation at all by any participants. Over a quarter of class time in the study was characterized by an absence of talk from both staff and students alike.

The COPS has provided a solid starting point from which to investigate learner silence. But it is only a starting point. As a rather blunt instrument of structured observation, the COPS is unable to provide a fine-grained analysis of each silent episode it records. For that, we need to start looking towards an individual-level analysis using, for example, a stimulated recall methodology in order to gain insights into why students remain silent in naturalistic classroom situations and what they think/feel during silent periods. Future research in this vein would be in line with the view that qualitative methodologies are more suited to investigating dynamic systems (Larsen-Freeman and Cameron 2008; Dörnyei 2009). Only once we have begun to understand the dynamics of learner silence, will we then be able to discover the most effective ways to encourage active oral participation in the target language.

SUPPLEMENTARY DATA

Supplementary material (the COPS instrument) is available at *Applied Linguistics* online.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all the teachers and students who were kind enough to allow the 'invisible man' access to their classrooms over the course of this study. My particular thanks extend to Atsuko Aono and Rodney Johnson for all their help and support in Japan, and to Zoltán Dörnyei in Nottingham for his constant and 'dynamic' guidance. This study was partly funded by a grant from the Japan Society for the Promotion of Science (JSPS).

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