

Newsletter of the Mathematical Sociology Section of the American Sociological Association

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Greetings from the Chair ... Diane Felmlee

It is time to organize our Session activities for the 2007-2008 year and to prepare for the 2008 Annual Meeting in Boston. Nominations are needed for three of our Section awards by ***Feb. 1*** and for our new Dissertation Award by ***March 1.*** In particular, we require candidates for our new Dissertation Award, which was given for the first time last year. This grant is designed to honor our developing scholars for their efforts in the creative application of mathematics in their sociological work and to provide funds for dissertation research expenses. In order to ensure the viability of this award, I encourage you to nominate dissertation proposals, and to send that information to me. Our thanks go to Geoff Tootell and many others for their efforts in raising funds for this important section enterprise, and I want to join him in encouraging contributions (See p. 13).

We need committees for the four Section awards (See p. 6). I will be calling on all Council members to serve on these im-

portant committees, and the Chair of each committee will be asked to select two non-council members. Meanwhile, the Nominations Committee (Doug Heckathorn, Past Section Chair, and Council members) will locate candidates for Section offices.

The 2008 ASA Section Program Committee consists of Chair, Diane Felmlee, and all Council members. We have one Section Session and one Regular Session. We encourage your submissions. If we receive a sufficient number of high quality papers, it may be possible to have more than one regular session. In addition, the one hour time slot that is allocated for our formal Section Council Meeting will be set aside for an Invited Session with Diane Felmlee presiding.

Note: We will have an informal Section Council Meeting at breakfast that will be held around our ASA Section Day. Information will be forthcoming.

Our thanks go to Douglas Heckathorn and members of the Council and Section who participated in last



year's Section Award Committees. Congratulations to the 2007 award winners (See p. 2).

Finally, let's give a virtual round of applause to our co-editors, Alison Bianchi and Pamela Emanulson, for their work on our terrific, new Newsletter.

To all of you, best wishes for the holiday season and the coming year.

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2007 Mathematical Sociology Section Award Recipients and Award Committees**Harrison White Outstanding Book Award**

Patrick Doreian, Vladimir Batagelj and Anuška Ferligoj

Generalized Block Modeling, Cambridge University Press, 2005.

Committee Members:

Eugene Johnsen (Chair), Lisa Troyer, Katherine Faust,
Lin Freeman, Peter Abell

Outstanding Article Publication

James Kitts

“Collective Action, Rival Incentives, and the Emergence of Antisocial Norms.”
American Sociological Review, 2006. 71:235-259

Committee Members:

Phillip Bonacich (Chair), Andreas Flache, James Moody,
Sato Yoshimichi, Bob Hanneman

Outstanding Graduate Student Paper

Yen-Sheng Chiang

“Birds of Moderately Different Feathers: Bandwagon Dynamics and the Threshold Heterogeneity of Network Neighbors” *Journal of Mathematical Sociology*, 2007. 31: 1-23

Committee Members:

Noah Friedkin (Chair), Jane Sell, Robb Willer, Shane Thye, Vincent Buskens

Mathematical Sociology Dissertation Award

Rense Corten

“Coevolution of Social Networks and Behavior in Social Dilemmas”

Committee Members:

Douglas Heckathorn (Chair), David McFarland,
James Montgomery, Kazuo Yamaguchi

Mathematical Sociology Annual Report, 2006-2007

Douglas Heckathorn, Past Chair

October 15, 2007

This year the Mathematical Sociology Section completed an active year and planned for expanded activities next year. Membership remained rather steady at 212 as of September 25th. This reflects a growth from 158 in 2003. Subsequently, section membership has stabilized in the 210 to 220 range. This stability reflects the presence of a core of sociologists whose commitment to building mathematical sociology is reflected most notably in joint activities with other communities of mathematical sociologists (i.e., see the description below of the 4th Joint Japan-North American Mathematical Sociology Conference to be held in Redondo Beach, California, May 29-June 1, 2008), and the creation of an endowment in excess of \$70,000 to fund awards for dissertations that “employ mathematics in an interesting, imaginative or ingenious way to advance sociological knowledge.”

The Business and Council Meetings

The business meeting’s agenda included the following items, each of which had initially been discussed and approved at the section’s council meeting:

1) A proposal to enhance the value of the “Outstanding Graduate Student Paper in Mathematical Sociology” award to include \$500 to help defray the costs of attending the ASA meetings or other expenses. The proposal was passed.

2) Discussion of venue for the 4th Joint Japan-North American Mathematical Sociology Conference. The proposed venue was the Crowne Plaza Hotel in Redondo Beach, California, May 29-June 1, 2008. This venue was approved.

In a related matter, a proposal for the section to underwrite a possible cost over-run for the meeting, up to a limit of \$500, was also approved.

3) The need for a new section news letter editor was discussed, and the in-coming chair was charged with the task of selecting a replacement editor.

4) There were also several announcements and open-ended discussions related to the current state and future plans for the section.

a) Members present joined in congratulating Rense Corton, of Utrecht University, the first recipient of the section’s Dissertation Award, an award that includes a \$1,000 honorarium.

b) Fundraising for the endowment for the section’s Dissertation Award continued during the year, and the fund has now reach \$70,000, only \$30,000 short of the goal of \$100,000. Discussions focused on rate at which the number of dissertation awards given annually can be increased as the endowment expands.

c) The section’s website continues to be operated through the good graces of Phillip Bonacich. In addition, Carter Butts is initiating a reorganization to make the web-site more user friendly and flexible.

d) Several options were discussed to increase public information about mathematical sociology, including information available on the web

The business meeting was attended by 56 persons.

Mathematical Sociology Annual Report, 2006-2007**Other ASA Activities**

Two sessions were organized. One was the section allocated by ASA based on the size of the section. This session was well attended. Located in a room with a capacity of 40, the available seats were quickly filled, and then available standing room was filled by an additional 13 other persons. Others were turned away from the session because of the lack of available space.

The second session, on “The Future of Mathematical Sociology” occurred at the time and place customarily allocated for the section’s council meeting. It was also well attended.

A reception was held jointly with the Rationality and Sociology section’s reception, during which the awards ceremony was held.

Elections were held in the manner stipulated in the section’s bylaws. Two candidates were offered for each open officer position, with the following results:

Chair-Elect: Barbara Meeker

Council Members: Jane Sell, and Brent Simpson

Student Representative: Matt Brashears

In addition, last spring the **revisions of the bylaws** were passed that had initially been approved by the council and business meeting four years in 2003, and then subsequently amended during each of the subsequent years.

At the end of the Business Meeting, Diane Felmslee became the Chair of the Section for 2007-2008.

Activities during the Current Year

Activities will fall within several categories:

The Chair of the Section will carry out the duties specified in the bylaws, including appointing award committees, choosing a new editor for the section newsletter, conducting the section elections in the manner stipulated in the bylaws, planning the sessions for the 2008 ASA meetings, and arranging for the section’s reception and award ceremony.

The chair will also cooperate with the Secretary-Treasurer, James Moody, to manage the section’s budget. Budget obligations include the following:

\$1,000 for each recipient of the Dissertation Award

\$500 for the recipient of the Outstanding Graduate Student Paper in Mathematical Sociology award

Appropriate expenses for the section’s ASA reception

The possible (but unlikely) expense of paying up to \$500 if the Japan/American mathematical meeting has a cost over-run.

Planning will continue for next spring’s 4th Joint Japan-North American Mathematical Sociology Conference.

Fundraising will continue for the endowment for the Dissertation Award.

Announcement and Call for Papers: Eugene Johnsen

 Fourth Joint Japan-North America Mathematical Sociology Conference
 May 29 - June 1, 2008

Crowne Plaza Hotel, Redondo Beach, CA

Organizers:

Eugene C. Johnsen

University of California, Santa Barbara
 (johnsen@math.ucsb.edu)

Carter T. Butts

University of California, Irvine
 (buttsc@uci.edu)

Jun Kobayashi

Seikei University
 (jun.kobayashi@fh.seikei.ac.jp)

Ryuhei Tsuji

Meiji Gakuin University
 (rtsuji@psy.meijigakuin.ac.jp)

Sponsors:

American Sociological Association Section on Mathematical Sociology

Japanese Association for Mathematical Sociology

Institute for Mathematical Behavioral Sciences, University of California, Irvine

Contact Information:

Web site: <http://usjapan2008.mathematicalsociology.org/>
 (not yet available).

Email: usjapan2008@mathematicalsociology.org

The Joint Japan-North America Mathematical Sociology Conference is an International gathering of scientists working at the forefront of mathematical, computational, and quantitative modeling of social systems. Research from all areas of mathematical sociology is welcomed; topics represented in past conferences include:

- * Agent-based models
- * Cellular automata
- * Demographic models
- * Evolutionary dynamics
- * Formal models of culture and the emergence of norms
- * Game theory, behavioral game theory, and models of decision making
- * Group processes
- * Inferential models for systems with complex dependence relations
- * Learning and optimization models
- * Models of epidemiology, diffusion, and influence
- * Organizational processes and behavior
- * Residential settlement, migration, and segregation
- * Responses to and/or impacts of disasters or global climate change
- * Social network analysis
- * Stochastic process models
- * Stratification and inequality

As in past years, selected papers will be invited for publication in a special issue of the Journal of Mathematical Sociology.

SUBMISSION:

Abstracts for conference papers (250-300 words) should be submitted electronically via the conference website:

<http://usjapan2008.mathematicalsociology.org/>
 (not yet available).

Participation is open to all researchers; students, women, and members of underrepresented minorities are encouraged to apply.

REGISTRATION:

For registration information, see:
<http://usjapan2008.mathematicalsociology.org/>
 (not yet available).

TRAVEL AND ACCOMMODATIONS:

The 2008 Joint Conference on Mathematical Sociology will be held at the Crowne Plaza Redondo Beach and Marina Hotel, in Redondo Beach, CA. See:

<http://www.crowneplaza.com/redondobeach>.

General hotel information, including location relative to the Los Angeles airport (LAX), is available at this website. The special conference hotel rate is US\$184.00 per night, single or double, plus taxes and fees. Statement of participation in the conference is necessary at the time of hotel booking in order to receive this special conference rate.

Further information on the conference registration fee and an optional Sunday afternoon tour of Los Angeles, will be available shortly.

IMPORTANT DATES:

- * January 15, 2008: 1st due date for submission of Abstracts
- * January 31, 2008: 2nd due date for submission of Abstracts
- * February 20, 2008: Notification of acceptance
- * May 29 - June 1, 2008: Joint Conference

Note: The papers submitted by January 15 will have the highest priority for the conference schedule. Submission by January 15 is strongly encouraged.

Mathematical Sociology Section Award Nominations

Please nominate your favorites for the following:

Outstanding Article Publication Award. This award honors an article that made an outstanding contribution to mathematical sociology. Eligible articles must have been published during the three years prior to the award year. Please send a copy of the article and a nomination letter by February 1, 2008 to Michael Macy, Cornell University, Department of Sociology, 372 Uris Hall, Ithaca, NY 14853; E-Mail: mwm14@cornell.edu.

James S. Coleman Distinguished Career Award. The Distinguished Career Award recognizes a lifetime of contributions to the field of Mathematical Sociology. The last award was given to Linton Freeman in 2006. A letter of nomination should outline the candidate's activities of lasting significance in mathematical sociology, conducted over the course of her or his career. The nomination also should include a copy of the candidate's curriculum vitae, and an assurance that the candidate has given permission to be nominated for the award. Nominations must come from American Sociological Association

members. Please submit nominations by February 1, 2008, to James Moody, Department of Sociology, Duke University, Durham, NC 27708; E-mail: jmoody77@soc.duke.edu

Graduate Student Paper Award. This award is presented for the best paper written by a graduate student that makes a significant contribution to mathematical sociology. Papers can be published or unpublished. The submission can consist of a dissertation chapter, but not the entire dissertation. The submission must have been written or published during the three years prior to the award year. The author/first author must be a graduate student at the time of submission, and all authors must be graduate students when the paper was written. Nominations and self-nominations are welcome. Please send a copy of the paper and a nomination letter by February 1, 2008 to Guillermina Jasso, Department of Sociology, New York University, 295 Lafayette Street, 4th Floor, New York, New York 10012-9605; E-mail: gj1@nyu.edu.

Mathematical Sociology Dissertation Award. This award provides a grant of \$1,000 to meet some of the scholarly expenses of a student whose dissertation employs mathematics in an interesting, imaginative or ingenious way to advance sociological knowledge. The applicant should submit a copy of his or her approved dissertation proposal, with a list of any requirements added by the graduate committee. The packet should also include a letter of support from the student's sponsor, which describes the student's qualifications for the completed task and the potential importance of the project. The requirements include membership in the ASA and the mathematical sociology section during the period to be covered by the grant. Please send a copy of the dissertation proposal and a nomination letter by March 1, 2008 to Diane Felmlee, Department of Sociology, University of California, Davis, One Shields Avenue, Davis CA 95616; E-mail: dhfelmlee@ucdavis.edu.



Research Spotlight On: Stanford Gregory and Will Kalkhoff Kent State University



Analyzing Sequences of Interactive Voice Data Using Fast Fourier Transform Analysis

We have been using Fast Fourier Transform (FFT) Analysis to examine sequences of human voice data to determine if conversation partners mutually adapt qualities of their voices to one another. When such adaptation occurs, it produces a socially constructed and unconscious vocal convergence pattern having no obvious connection with the consciously controlled verbal message of the interactants' speech. Using FFT analysis, we have found that interactants converge their voice frequencies *below* .5khz. in the course of their conversation (Gregory and Hoyt, 1982; Gregory, 1983; 1986a; 1986b; 1990; Gregory, Webster & Hung, 1993; Gregory 1994; Gregory, Dagan & Webster, 1997) Further, this convergence is produced by lower social status partners accommodating their vocal frequencies beneath .5khz. to higher status conversation partners (Gregory & Webster, 1996; Gregory & Gallagher, 2002). Most currently, we have established that the .5khz. voice signal is processed in the right cerebral hemisphere, a cognitive area not commonly associated with speech processing (Gregory, Kalkhoff, Harkness & Paull, 2007). Our findings suggest that the brain discerns specific portions of the speech spectrum for processing in specific cognitive locations: below .5khz. in the right hemisphere and above .5khz. in the left. Using "dichotic" listening methods to send these separate frequency bands *directly* to the "correct" cerebral hemisphere leads to enhanced task performance (Kalkhoff, Gregory, & Melamed 2007).

In speech analysis, the FFT has been very useful for us, as it is used to transform ordinary interactive speech into a set of mathematical values that represent the actual biological stimulus from the larynges or vocal folds (or chords), giving rise to what we perceive as speech. In commenting on FFT analysis, a member of the Stanford University electrical engineering faculty has stated:

To calculate a transform just listen. The ear automatically performs the calculation, which the intellect can execute only after years of mathematical education. The ear formulates a transform by converting sound - the waves of pressure traveling through time and the atmosphere - into a spectrum, a description of the sound as a series of values of distinct pitches. The brain turns this information into perceived sound. (Bracewell, 1989, p. 86)

In other words, an ear/brain mechanism of a listener translates perturbations of air produced by the larynges of the speaker. What is of interest *socially* is the fact that the transmitted signal is represented identically from speaker to hearer, via an FFT-like conveyance. The hearer can perceive how the sound was produced by the partner's larynges because this stimulus object would be nearly identical to how the hearer would produce these sounds. In this way the hearer and speaker are on the same

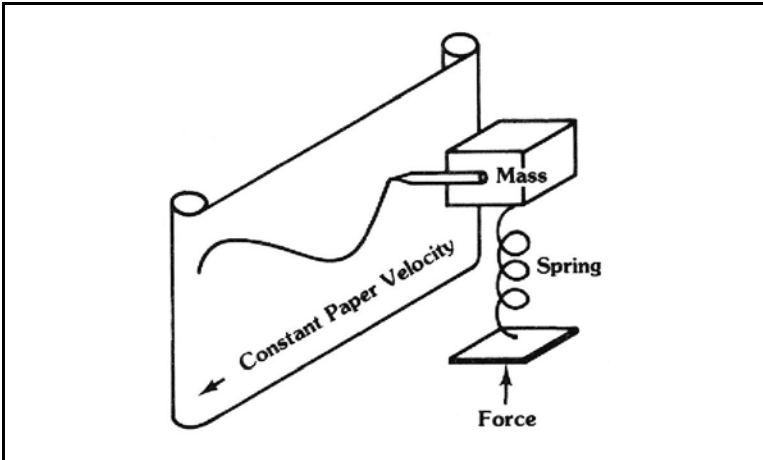


Figure 1. Direct recording of displacement – a time domain view

communications “page” so to speak. But how do mathematicians perform this transform?

As Dr. Bracewell has noted (see above), FFT analysis is a mathematical invention that can mimic a natural process when applied to human speech. Speech can be translated into analogue data in the most simple way using a strip tape recorder as illustrated in Figure 1.

In Figure 1 the perturbations of air from speech provide the force energizing the mass that records the

analogue data, and then the analogue data can be digitized into a mathematically usable format. Using a version of calculus invented by the mathematician Jean Baptiste Fourier well over one hundred years ago, the digitized complex speech waveform becomes a summation of separate sine waves. Analysis of this complex wave involves picking the amplitudes, frequencies and phases of the constituent sine waves correctly, thereby generating a waveform nearly identical to the natural speech signal. Of course in the present day this process is performed digitally using a mathematical protocol, but the process can replicate the natural bio-physical signal much like a glass prism can be used to transform white light into a constituent spectrum of distinct spectral colors, each with a unique frequency. Analogously, the white light view for speech would appear as in Figure 2, called the time domain (where amplitude is related to time), and the transformed spectral colors view for speech would appear as in Figure 3 (a), called the frequency domain view.

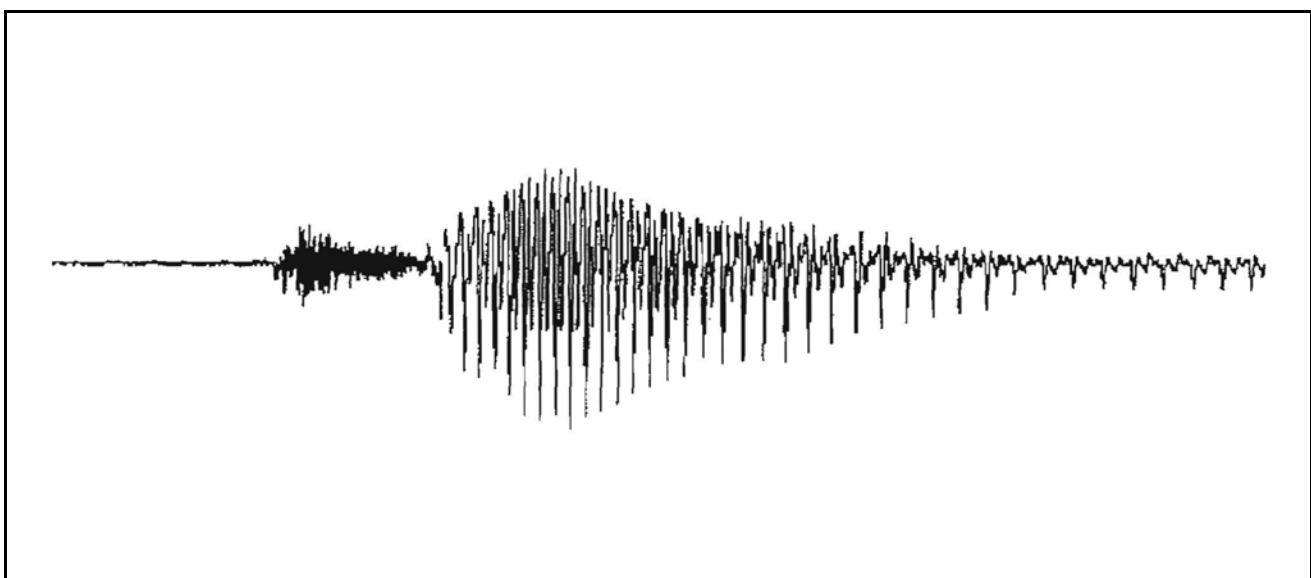
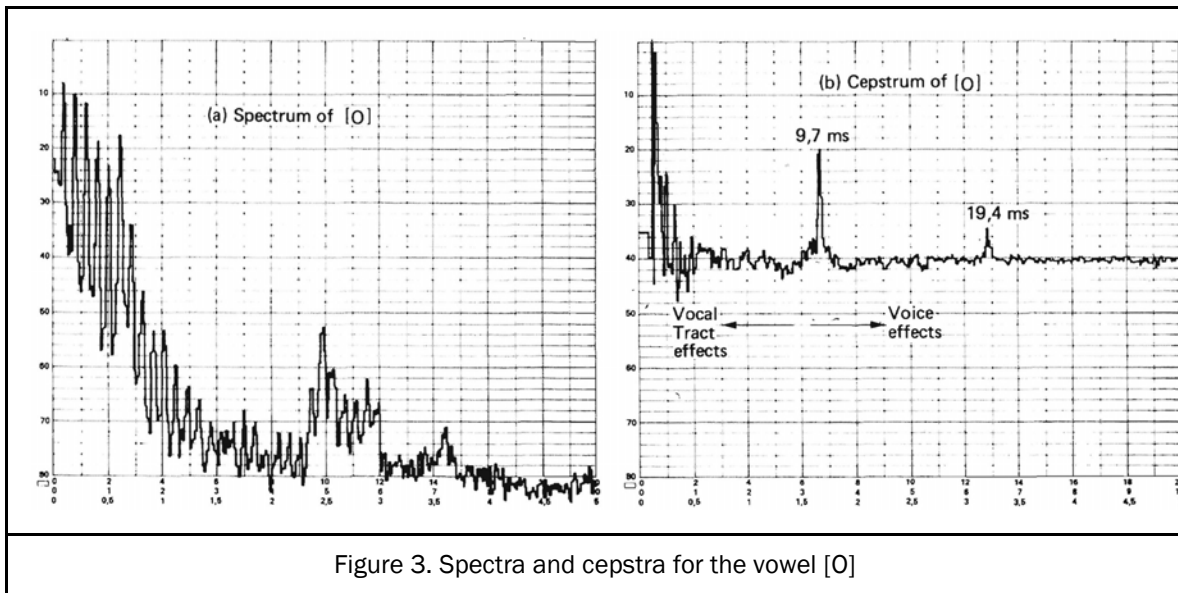


Figure 2. A speech waveform of the word “team”



The frequency domain view (Figure 3) is constructed from digitized speech data input to an FFT routine in a dedicated analyzer instrument or a PC with software such as that offered by the PRAAT website (<http://www.fon.hum.uva.nl/praat/>). In very simple terms, the FFT routine takes apart the complex speech waveform (such as that in Figure 2) by extracting its constituent sine waves. As briefly noted above, most waveforms such as speech are composed of a multitude of summed sine waves, as in Figure 4. After analysis by the FFT routine, the time domain array is transformed into a frequency domain array.

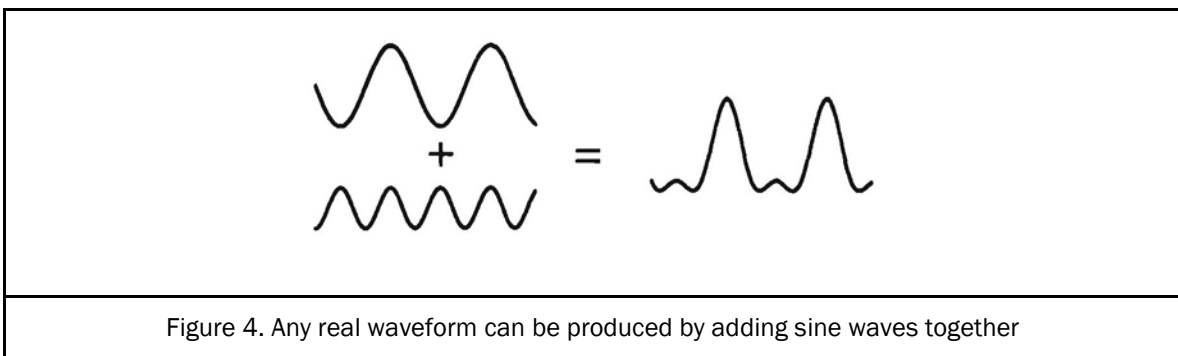
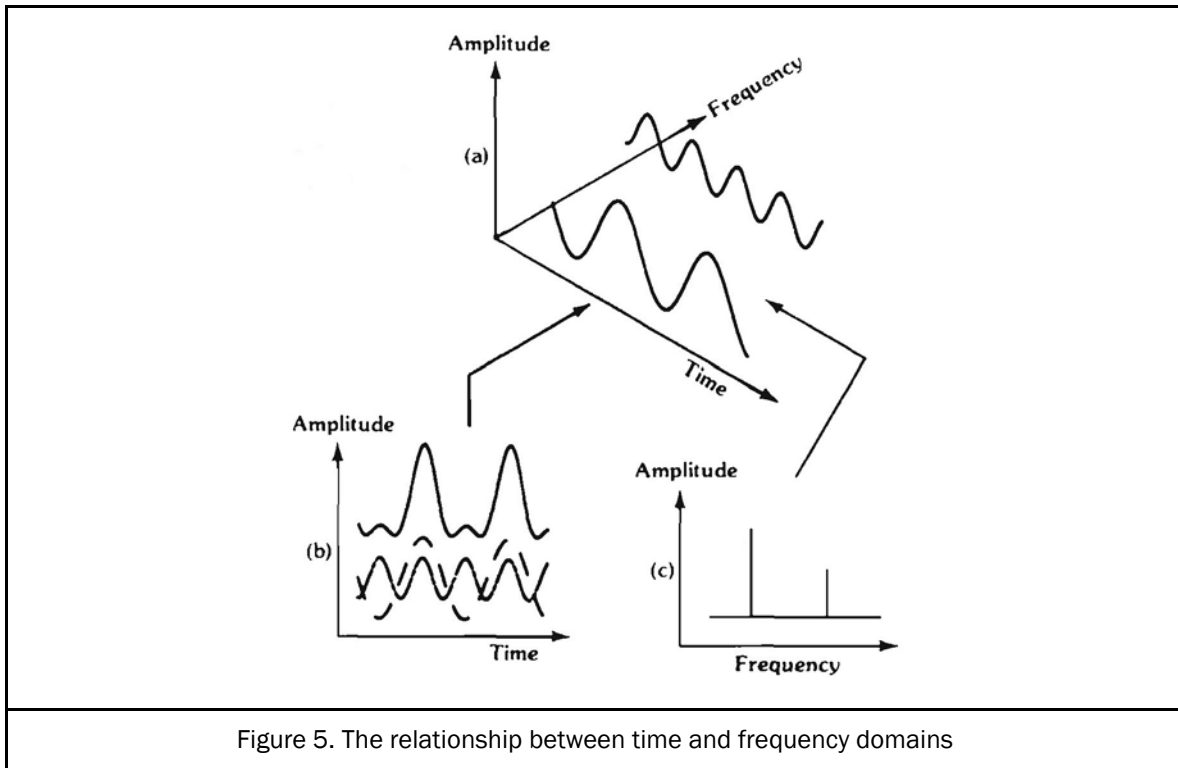


Figure 5 illustrates the construction of the frequency domain array (amplitude vs. frequency) from the time domain array (amplitude vs. time). Graph (a) in Figure 5 is a three dimensional view, which when viewed from the left reveals the time domain view (graph (b) in Figure 5) and from the right the frequency domain view (graph (c) in Figure 5).



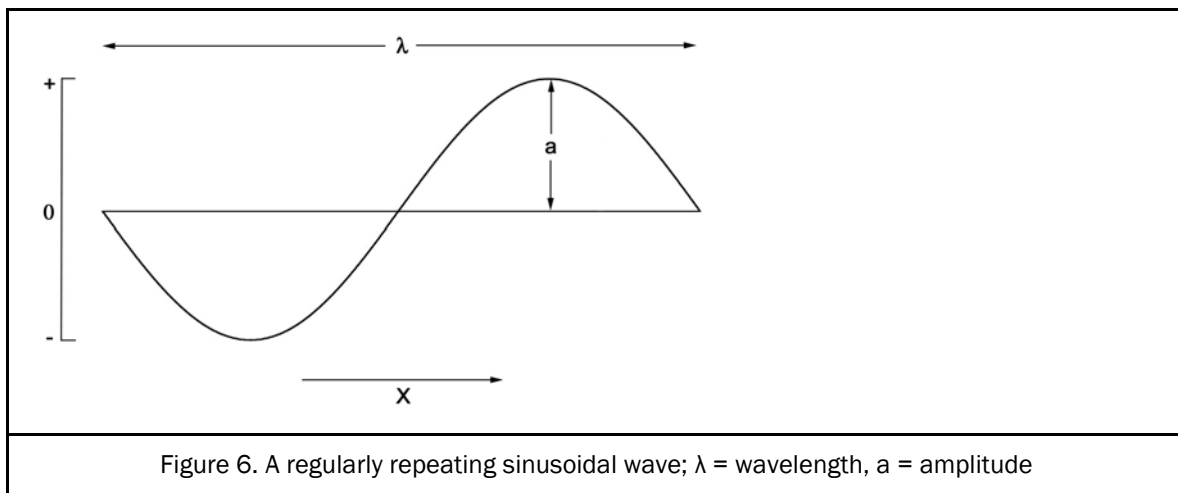
In order to understand the calculation of a Fourier series, the properties of a simple sine wave must be understood.

First, the distance between identical (repeating) points in the adjacent cycles of a waveform is called the wavelength, λ (see Figure 6 for an example). Frequency, f , is the reciprocal of the wavelength, or $f = 1/\lambda$. The number of waveforms in a unit of length or time along with the time required for a regularly repeating signal to exactly repeat itself is called the period of a wave. The term period is equivalent to wavelength. One-half the distance from the top of the wave crest to the bottom of its trough is called the amplitude. When a sine wave is shifted along the X axis (see Figure 6) it is said to have changed its phase or phase angle. A simple mechanical device that transforms rotary motion into linear motion – like the drive shaft connected to the wheel perimeter of an old railroad engine – can express the means for creating and measuring the sine wave by a metric called the radian. As a fixed wheel rotates and changes the angle of its radius from a fixed point, it generates changes in displacement or amplitude on a moving tape (see the strip tape recorder in Figure 1 and imagine a fixed wheel with a connecting rod that moves the pen instead of a mass on a spring). One complete revolution of the wheel, for example, would be represented by 2π radians, and the phase angles for the sine and cosine waves are usually represented by the terms a and b , respectively.

The various metrics noted above are included in the Fourier series, and for simple sequences it is:

$$Y_i = \sum_{n=1}^{\infty} \left(\alpha_n \cos \frac{2n\pi X_i}{\lambda} + \beta_n \sin \frac{2n\pi X_i}{\lambda} \right) \quad (1)$$

Equation 1 states that the amplitude, Y_i , at a given point is determined by the sum of the amplitudes of the component sine and cosine waves at a distance X_i from the origin of the series. If only one component wave is present in the signal, as in Figure 6, one sine or one cosine term will be sufficient to represent the wave form, but most natural waveforms are not so simple. It is necessary at this point to understand the physical and mathematical principle of harmonics before continuing this discussion. Figure 6 is a sinusoidal wave of length λ , and it is called the first harmonic or fundamental frequency; a second harmonic has a wavelength of $\lambda/2$, the third harmonic has a wavelength of $\lambda/3$, and so on. When the various harmonics are successively added we create a complex waveform. The identifying characteristic of any given harmonic is a function of its amplitude, which may be as low as zero if the harmonic is not present in the wave, and this gives us a clue as to its presence in the data. When we arbitrarily try a wavelength in the Fourier series that shows up in the data set, and then compute all the harmonics of that wavelength, we can generate a listing (i.e., spectrum), which is an estimate of the frequencies (or periodicities) that are present in the data. If our choice of a wavelength is incorrect, meaning that this wavelength is actually not in the data, the coefficients of the first harmonic may be near zero in amplitude. Again, only those wavelengths actually present will have significantly large amplitudes. Thus the series leads us to an array of wavelengths that are actually present in the data set – an accurate frequency domain representation of the data sequence.



We have very briefly introduced FFT analysis of sequential data and will conclude with another brief mention of a derivative from FFT analysis called “cepstral” analysis, which is named after the word “spectrum” with the first syllable read backwards (i.e., spec → ceps) because cepstral analysis basically involves reversing a spectrum. Specifically, cepstral analysis involves a computation that is essentially an FFT analysis of an FFT analysis. This computation is quite successful in better estimating the fundamental frequency of speech. Figure 3 compares a spectral analysis of the vowel [o] with a cepstral analysis of [o]. Figure 3 (b) shows clearly how vocal tract effects (echoes along the vocal tract occurring after sound production from the

larynges) can be set apart from the voiced tones. This purification of the laryngeal sound signal could lead to a more efficient and accurate means of studying social convergence and accommodation. Though this discussion is probably overly brief, it hopefully gives some indication how these intriguingly creative calculi can tease out an important essence from a complex form of human interaction.

References Cited

- Bracewell, R.N. (1989). The Fourier Transform. *Scientific American*, 260, 86-95.
- Gregory, S. W., Jr. & Hoyt, Brian R. (1982). Conversation Partner Mutual Adaptation as Demonstrated by Fourier Series Analysis. *Journal of Psycholinguistic Research*, 11, 35 - 46.
- Gregory, S. W., Jr. (1983). A Quantitative Analysis of Temporal Symmetry in Microsocial Relations. *American Sociological Review*, 48, 129-135.
- Gregory, S. W., Jr. (1986). Social psychological implications of voice frequency correlations: Analyzing conversation partner adaptation by computer. *Social Psychology Quarterly*, 49, 237-246.
- Gregory, S. W., Jr. (1986). A sociolinguistic indicator of group membership. *Journal of Psycholinguistic Research*, 15, 189-207.
- Gregory, S. W., Jr. (1990). Analysis of fundamental frequency reveals covariation in interview partners' speech. *Journal of Nonverbal Behavior*, 14, 237-251.
- Gregory, S. W., Jr., Webster, S. W., & Huang, G. (1993). Voice pitch and amplitude convergence as a metric of quality in dyadic interviews. *Language and Communication*, 13, 195-217.
- Gregory, S. W., Jr. (1994). Sounds of power and deference: acoustic analysis of macro social constraints on micro interaction. *Sociological Perspectives*, 37, 497-526.
- Gregory, S. W., Jr., & Webster, S. W. (1996). A Nonverbal Signal in Voices of Interview Partners Effectively Predicts Communication Accommodation and Social Status Perceptions. *Journal of Personality and Social Psychology*, 70(6), 1231-1240.
- Gregory, S. W., Jr., Dagan, K., & Webster, S. W. (1997). Evaluating the relation of vocal accommodation in conversation partners' fundamental frequencies to perceptions of communication quality. *Journal of Nonverbal Behavior*, 21(1), 23-43.
- Gregory, S. W., Jr., & Gallagher, T. J. (2002). Spectral Analysis of Candidates' Nonverbal Vocal Communication: Predicting U.S. Presidential Election Outcomes. *Social Psychology Quarterly*, 65(3), 298-308.
- Gregory, S. W., Jr. Kalkhoff, W., Harkness, S. K. & Paull, J. L. (2007). Localization and Enhancement of Cerebral Processing of the Speech Fundamental Frequency as Derived from Dichotic Listening in Dyadic Conversations. Manuscript submitted for publication.
- Kalkhoff, W., Gregory, S. W., Jr. & Melamed, D. (2007). Auto Drivers Crash Less and Think Better with Electronically Enhanced Hearing. Manuscript submitted for publication.

Preliminary Information about the Mathematical Sociology Section Sessions at ASA

Don't forget that there is now a call to submit your papers for the 2008 American Sociological Association's Annual Meeting. This year, the meeting will be held from August 1-4 in Boston, Massachusetts.

To submit your papers, go to the appropriate ASA Website:

<http://www.asanet.org/>

[cs/root/leftnav/meetngs/2008_call_for_papers](#)

... and follow the directions to submit. This year, the Mathematical Sociology Regular Session is being organized by John Skvoretz, University of South Florida. Our Section on Mathematical Sociology is being organized by Eugene Johnsen, Uni-

versity of California-Santa Barbara.

Don't forget: the submission deadline is January 16, 2008 at 3 pm EST.

Also don't forget: the one hour time slot that is allocated for our formal Section Council Meeting will be set aside for an Invited Session with Diane Felmlee presiding.



Boston, Massachusetts

— site of the 2008 ASA Meetings

A Call for Contributions by Barbara Meeker

This is a call for people to present Mathematical Sociology to the community of U. S. mathematicians. This will be a year from now, **January 5-8, 2009**, in Washington, DC, at the annual national joint meetings of the Mathematical Association of America and American Mathematical Society.

I proposed this as a possible project of the Math Soc Section last August in the Section Business Meeting, where it passed unanimously. I volunteered to do the organizing. I have investigated how we would do it and have the following information:

- MAA officials are supportive of the idea, but need a specific proposal

- what we want is an 'invited session' meaning that we recruit our own speakers and propose to the MAA program committee a panel of speakers with their

topics.

- the deadline for proposing sessions for next January's joint AMS-MAA meeting is April 2008. I spoke to the person in charge of the program, as well as people on the staff at the MAA. They are not ready to get information about the 2009 program until after this year's meetings (which are in San Diego, January 6 - 9, 2008 - you can find information on the MAA webpage at <http://www.maa.org/>). However, we should get our proposal to them as soon after that as possible.

- we need a panel of 3 - 5 speakers, each prepared to give a 15- 20 minute talk. The audience for MAA is mostly PhD mathematicians, including undergraduate college level teachers of mathematics. We could present examples of undergraduate courses in Mathematical Sociology or of our own work developing specific



models.

- presenters do not need to join the MAA as long as we have a sponsor who is a member (we do). However, you would need to cover your own travel expenses.

- please either volunteer yourself, or send me suggestions for other Section members who would be good to ask, at bmeeker@socy.umd.edu. **Deadline** to contact me: March 1, 2008.

Announcement: Donate to the Math Soc Section's Dissertation Grant Award

Reaching \$100,000 by 2008 will be a real achievement. But if we are to make Sociology into a real science, one with trustworthy theories, backed by well fitted research, we can't stop. If we can make this Dissertation Grant into a very desirable and well known prize, we can attract more excellent students. This can become a major milestone in the progress of our discipline. Some day there will be a winner whose work will revolutionize our field.

We have also to fight inflation. In ten years, at a low inflation rate (2%), it will take \$120,000 to provide an award with the same value offered by our \$100,000 today.

To reach desirable levels, we need broad participation. We welcome any help you can give. All gifts add up, par-

ticularly if they are repeated for several years. The more people, the more years, the better. This is really a prize for all of us, an achievement that will be a collective legacy, a lasting public good.

I hope that some better situated, older, or more fortunate members can commit themselves to gifts of \$500 or more a year for a ten year period. (I shall.) Then we can assure ourselves that such goals can be met: it would frost our cake.

Once more, would you please help, especially those who have never given? This is your opportunity to make a potentially very important gift, no matter how small, or large, it is. Some day one of your students may benefit directly from it. At this level, we can increase the award to \$2000. Later we shall need to raise it another notch, at least to \$4000. Some day

the winner of this grant will write a dissertation as significant, or more, than Arrow's. Wouldn't you like to think you helped to fund it? It will be good to have contributed to his or her preparation.

Again, would you please be sure to memo your check to ASA with "Math Soc Section Diss. Grant", and please send it to Jim Moody at Duke? His address is:

Prof. James Moody
Department of Sociology
332 Soc/Psych Building
Duke University
Durham, NC 27708

Happy Holidays, always,
Geoff Tootell

Mission Statement of the Mathematical Sociology Section

The purpose of the Mathematical Sociology Section of the American Sociological Association is to encourage, enhance and foster research, teaching and other professional activities in mathematical sociology, for the development of sociology and the benefit of society, through organized meetings, conferences, newsletters, publications, awards, and other means deemed appropriate by the Section Council. The Section seeks to promote communication, collaboration, and consultation among scholars in sociology in general, mathematical sociology, and allied scientific disciplines.

MATHEMATICS
is one of the essential emanations
of the human spirit, a thing
to be valued in and for itself,
like art or poetry.
OSWALD VEBLÉN 1924

Mathematical Sociology Section News

Greetings from the Co-Editors!

Thank you all for your timely contributions to our Fall/Winter 2007/2008 Newsletter!

Please continue to send us your announcements, articles, book reviews, etc. The more you are involved with the newsletter, the better it will be!

Please feel free to send us your comments, concerns, corrections, or any ideas you have for the newsletter.

Have a great Fall/Winter, and watch your e-mails for future newsletter editor requests!

— *Alison Bianchi*

— *Pamela Fmanuelson*

