Report of APSA Working Group on Collaboration[1]

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Summary

The APSA working group on collaboration, formed in February 2006, was motivated by what appeared to be a significant expansion in collaborative work in political science, accompanied by an increase in the number of junior scholars engaged in collaborative projects. Our charge was to (1) Identify the important ethical and procedural questions raised by this expansion (2) Gather information on the practices within political science and other disciplines which address these questions (2) Propose best practice(s) or principles on the basis of which to evaluate best practice(s) where possible and (4) Create a forum for continued discussion as new projects evolve.

Part 1 documents some basic facts about the trends in collaborative work in political science, using data on published articles between 1956 and 2005 from the Social Science Citation Index and papers presented at the American Political Science Association between 2002 and 2006 from a dataset made available by APSA. It shows that there has indeed been an increasing, albeit uneven, trend towards collaboration in all four major subfields – American Politics, International Relations, Comparative Politics and Political Theory. There appears also to be an expansion in the scale and in the range of methods employed in collaborative work. As we had surmised, this expansion has gone hand in hand with an increase in the number of untenured faculty and graduate students engaged in collaborative work. And most importantly, this increase has come about largely through collaborative relationships that are asymmetric by rank, between students and faculty and between untenured and tenured faculty.

Part 2 identifies five important questions of principle and procedure raised by the asymmetric nature of collaborative work in political science: (1) How should the contribution of assistants be acknowledged in collaborative work? (2) What are the criteria by which an assistant's contribution to a project should be acknowledged as co-authorship? (3) How should we decide on the order of authorship in co-authored work? (4) How can we integrate collaborative work with graduate training in a way that encourages independent thinking? (5) What should the procedures be for a discussion of any of these questions and for the resolution of disputes? In addressing these questions, we start from the position that we should as a discipline encourage collaborative work. The more we collaborate, the more we find ways of leveraging the work of others, and the better our work will be. But organizing asymmetric collaborations in a way that is effective and ethical requires a discussion about the stakes attached to each of these questions, the practices that we currently follow in response, and the best practices that we might follow. In surveying and suggesting practices, our purpose is to create a context for this discussion – and not to lay down rules. Political science, unlike other disciplines with a history of collaboration, represents a gaggle of different approaches, styles, methodologies, and data collection strategies – and collaborative work in political science is similarly diverse. No one practice is likely to work in all situations. But an informed discussion about best practices can provide a perspective that helps scholars make better individual decisions.

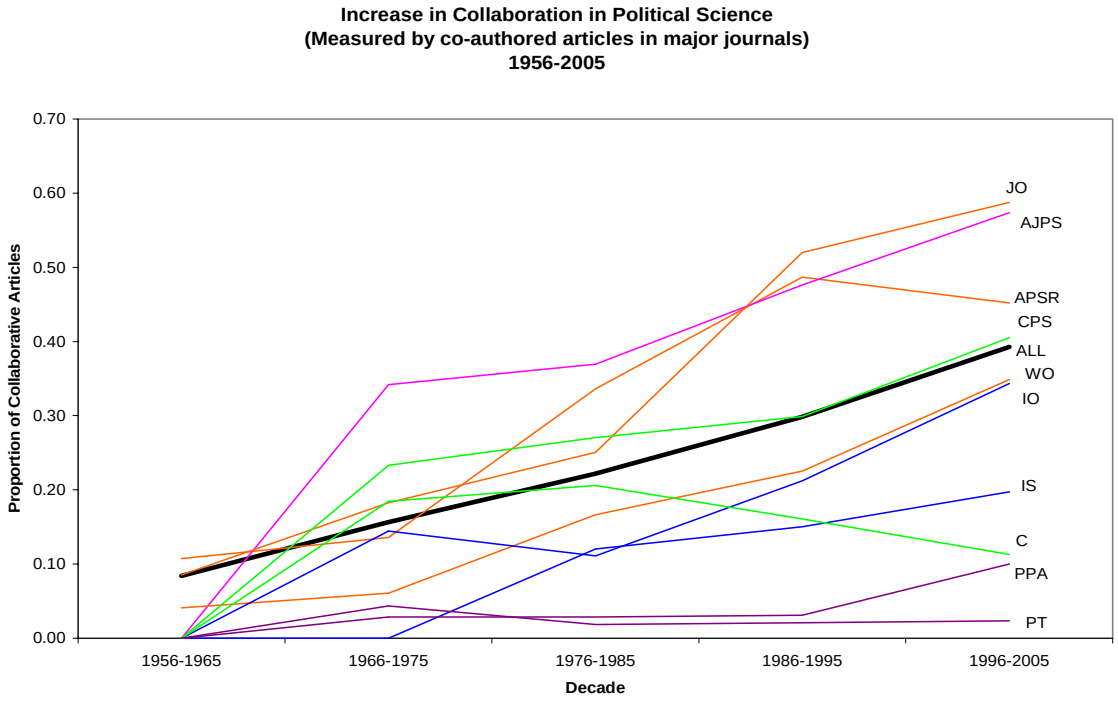
In order to initiate such a discussion, we make three recommendations: (1) The APSA should seek feedback on this report as widely as possible, by circulating it among colleagues and students (2) A revised version, based on the feedback we receive, should be posted on the APSA website and published in PS and (3) APSA should make the data on which this report is based publicly available for others to explore collaborative patterns and practices as research questions rather than simply as matters of professional concern.

1. Facts

There is an increasing trend towards collaboration – narrowly measured here as co-authored work -- in political science. In 1956-1965, less than 10% of the articles published in the major journals across subfields in political science were co-authored.[2] In the last decade – 1996-2005 – 40% were. The level of collaboration will almost certainly be lower if we take books rather than articles into account. But if we look at papers presented at APSA meetings, which include work that eventually ends up as book chapters, we see that the volume of collaborative work continues to be substantial: 26% of papers to be presented at the 2006 APSA meeting are co-authored. This too indicates an increasing trend for the years for which we have data.

This increase has occurred in each of the four major subfields – American Politics, International Relations, Comparative Politics and Political Theory -- although to different degrees. The chart below summarizes the proportion of co-authored articles published in each decade between 1956 and 2005 in the following major journals: the *American Political Science Review (APSR)*, the *American Journal of Political Science (AJPS)*, the *Journal of Politics (JOP)*, *World Politics (WP)*, *International Organization (I0)*, *International Security (IS)*, *Comparative Political Studies (CPS)*, *Comparative Politics (CP)*, *Political Theory* (PT) and *Philosophy and Public Affairs (PPA)*. Of these, we can treat the APSR as crossing all four subfields, with a bias towards American Politics, the *JOP* as crossing the three empirical subfields, and *World Politics* as crossing the subfields of Comparative Politics and International Relations. All other journals can be broadly assigned to individual subfields, with the *AJPS* representing American Politics, *Comparative Politics* and *Comparative Political Studies* representing Comparative Politics, *International Organization* and *International Security* representing International Relations, and *Political Theory* and *Philosophy and Public Affairs* representing Political Theory.

[2] The journals included in the comparison are the *American Political Science Review*, the *American Journal of Political Science*, the *Journal of Politics*, *World Politics*, *International Organization*, *International Security*, *Comparative Political Studies*, *Comparative Politics*, *Political Theory* and *Philosophy and Public Affairs.* Note all of these were published from 1956 onwards. They enter our database in the decade in which they were published.



Not surprisingly, the highest level, and sharpest increase, in collaborative work is in the subfield of American politics – and the lowest level, and slightest increase, is in Political Theory. Only 5% of articles published in the two main journals in Political Theory in the most recent decade were co-authored – and this represents a negligible increase over the years.

But even in American Politics, which is the subfield we traditionally associate with collaboration, the magnitude of collaborative work is striking. If we look at publications in the major journals, this subfield appears to have transformed in the last decade into one in which collaboration has become the norm: 54% of published articles in the *APSR*, *AJPS* and *JOP* in the most recent decade were co-authored (58% if we take out the *APSR*). This may reflect a disproportionate submission rate, or acceptance rate, for collaborative work at these journals. If we look at work being produced in this field, based on papers presented at APSA, the level of collaboration in this subfield is lower but large: of the papers that had at least one Americanist co-author presented at APSA between in 2006, 38% were co-authored.[3]

The subfields of International Relations and Comparative Politics had a more gradual increase. But even here, the magnitudes are significant. 30% of the articles published in the major journals in International Relations (*World Politics*, *International Organization* and *International Security*) and 31% in Comparative Politics (*World Politics*, *Comparative Politics* and *Comparative Political Studies*) were co-authored. This is only slightly higher than the proportion of co-authored papers presented at APSA in these two subfields: 25% of all papers to be presented in 2006 with an IR scholar as author, and 29% of all papers with a Comparativist co-author, are co-authored.

[3] Since the limits on participation at APSA give authors an incentive not to list themselves as co-authors of more than two papers, this estimate may be biased downward.

The relative magnitude of collaboration in the two subfields is somewhat surprising. There is a common perception that International Relations, with its history of large-scale data collection projects (e.g. the Correlates of War dataset, or the PRIO database on Armed Conflict), is more open to collaboration than Comparative Politics. While comparative politics has also had its share of large-n projects, it has been dominated by single-country studies, and methods of studying single-countries, such as ethnography and historical research, that have not traditionally lent themselves to collaboration.

The unexpectedly high level of collaboration in comparative politics may be a consequence both of the expansion of quantitative methods traditionally associated with collaboration within this subfield and of an expansion in the methods employed in collaborative work. Indeed, many of the examples of recent or current collaborative projects cited below employ traditional methods which were typically used only in solo-work earlier – such as ethnography – or methods that have been introduced into the discipline more recently – such as agent-based modeling, field experiments, survey-based experiments, and the computational analysis of political texts. And these methods are now being applied not only to cross-country research, but also to studies of a single country, and units within a country.

There appears to be an expansion also in the scale of collaboration, with more "team" based projects than we had previously. By "team" based projects, we mean collaborations which involve more than two faculty and/or student assistants. Team based collaborations have always occupied a niche in political science – examples of such long-established projects include the Correlates of War Dataset, the Manifestoes Project coordinated by Ian Budge at the University of Essex, and the National Election Studies at the University of Michigan. But there now appear to be many more of them, across a broader range of methods. Examples of recent or ongoing "team" collaborations, in no particular order, include the following:

- TESS (Time—Sharing Experiments in the Social Sciences) based at the University of Michigan.
- The Varshney-Wilkinson database on ethnic riots in India, initially based at Harvard.
- The War Initiation and Termination Project led by Tanisha Fazal and Page Fortna, based at Columbia.
- Collaborative ethnographic projects led by Rogers Brubaker (UCLA) in a forthcoming book manuscript on Romania and by David Laitin (Stanford) in *Identity in Formation*, published in 1998.
- A project on the Dynamics of Political Representation and Political Rhetoric led by, Burt Monroe (Michigan State), Kevin Quinn (Harvard), and Mike Colaresi (Michigan State), along with colleagues from computational linguistics.
- A field experiment on ethnic identifiability in Uganda led by James Habariyama (Economics, Georgetown University), Macartan Humphreys (Columbia), Daniel Posner (UCLA) and Jeremy Weinstein (Stanford).
- A project on the coding of party platforms led by Kenneth Benoit (Trinity College), Mik Laver (NYU) and Will Lowe (Harvard).
- The Africa research program led by Robert Bates (Harvard).
- The ACLP project on democracy and development, led by Adam Przeworski at NYU.
- A project on agent-based modeling led by Ian Lustick at the University of Pennsylvania.

- CDEI (Constructivist Dataset on Ethnicity and Institutions), a cross-national project on the measurement of politicized ethnic identities coordinated by Kanchan Chandra (NYU).
- Experimental work on party identification in Russia being planned by Joshua Tucker (Princeton/NYU) and Ted Brader (University of Michigan).

One rough measure of the extent of team-based collaborations is the number of authors on papers presented at APSA. Of the co-authored papers presented at APSA between 2002 and 2006, 11% had more than two authors. This number may be artificially low because of the rules of participation at APSA, which limit the number of papers that an individual scholar can be co-author on – and may also reflect a pattern in which team projects produce finished products that are authored in ones and twos. We can take it, therefore, to be a lower-bound estimate of the volume of team-based collaborations in the discipline as a proportion of collaborative work.

This expansion in frequency, subfield, method and scale of collaboration has gone hand in hand with an increase in the number of junior scholars – untenured faculty and graduate students – involved in collaborations. Although we do not have systematic data on the attributes of those who collaborated in the past, a common perception is that those most likely to collaborate were senior faculty at fairly advanced stages in their career.[4] But in the APSA database on papers presented in 2002-2006, tenured faculty were only slightly more likely than those at other levels to engage in collaboration: 35% of papers with a tenured faculty member as author were collaborative in nature – but so were 28% of papers with an untenured faculty members as co-author, and 30% of papers with a student co-author.

Further, the increase in the involvement of younger scholars in collaborative research in political science has come about largely through relationships that are asymmetric by rank, between students and faculty and between untenured and tenured faculty. The majority (58%) of collaborations in political science as measured through APSA papers involve co-authored work between graduate students and faculty, or between untenured and tenured faculty, or all of the above. The table below records the figures for these different types of collaborations for the dataset as a whole, and for individual years.

Type of Collaboration	All years (n=2648)	2002 (n=472)	2003 (n=398)	2004 (n=486)	2005 (n=609)	2006 (n=683)
Equals (Any rank)	41.73%	42.37%	44.22%	39.71%	41.22%	41.73%
Students and Faculty	37.46%	36.65%	35.18%	38.27%	38.75%	37.63%
Untenured and Tenured Faculty	19.90%	19.70%	19.35%	21.19%	19.05%	20.20%
Students, Untenured Faculty and Tenured Faculty	0.91%	1.27%	1.26%	0.82%	0.99%	0.44%

[4] Ed Mansfield, "The Growth of Collaborative Research: Comparative Politics and International Relations." APSA-CP 12: 2, 11-13. in APSA-CP symposium on collaboration in 2001)

Of these asymmetric collaborations, most (64%) involve students and faculty. Collaborations between untenured and tenured faculty account for only a third. And of student-faculty collaborations, most (69%) involve tenured faculty and students. Collaborations between untenured faculty and students account for only 39% of student-faculty collaborations.[5]

There are additional patterns in the attributes of those who collaborate, with significant professional implications, that we have only begun to explore. One such pattern is a difference in the type of collaboration by gender. Despite the fact that almost as many women present papers at APSA as men – 46% of those who presented papers at APSA between 2002 and 2006 were female, compared to 54% who were male -- only a small proportion (10%) of collaborative work is by female authors collaborating with each other. Most co-authored papers presented at APSA are authored either by all male (56%) or by mixed-gender (33%) teams. This pattern has also been noticed by an earlier article on co-authorship in political science, based on different data, according to which "among women in the social sciences, but particularly among women in political science, the dominant form of authorship has been cross-sex collaborations."[6] It is not the case that this pattern is reversed in female-dominated subfields. In publications in *Women and Politics*, for instance, a journal with a primarily female authorship, women tended to publish primarily solo-authored articles.[7] There may well be further relationships between attributes such as subfield specialization, ethnicity, institutional affiliation and location and collaborative work – and some of these may be correlated the pattern of asymmetric collaborations we describe above. We hope that the preliminary facts that we have tried to establish here will lead to more systematic studies by others using the data provided by APSA.

2. Practices

We focus here on addressing questions raised by the "asymmetric" nature of collaboration in political science and the heavy involvement of junior scholars in collaborative work, taking into account what we know about such collaborations from the data – that they span subfields and methods, that they mostly involve faculty and students and to a lesser extent junior and senior faculty, and that they typically produce dual-authored work but may emerge from larger-scale projects. Many of the practices we describe here are based on informal consultations with colleagues about specific projects, but we do not name these projects here.

The five questions we find to be the most important are:

1. How should the contribution of assistants be acknowledged in collaborative work?

2. What are the criteria by which an assistant's contribution to a project should be acknowledged as co-authorship?

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[5] The percentages of tenured-faculty-student collaborations and untenured-faculty-student collaborations do not sum to 100% because they are not mutually exclusive categories. Collaborations with three or more authors can fall into both categories.

[6] Bonnie S. Fisher, Craig T. Cobane, Thomas M. Van der Ven and Francis T. Cullen, "How Many Authors Does it Take to Publish an Article? Trends and Patterns in Political Science," *PS: Political Science and Politics*, Volume 31, No. 4 (December 1998), 847-856.

[7] Ibid.

3. What should the order of authors in a co-authored work be?

4. How can we integrate collaborative work with graduate training in a way that encourages independent thinking?

5. What should the procedures be for a discussion of any of these questions and for the resolution of disputes?

Although not the only questions that we should focus on, the stakes attached to these questions are high. There are three kinds of stakes, professional, intellectual and ethical. First, the answers to these questions – especially those to do with the allocation of credit – have consequences, or perceived consequences, for career advancement. This affects junior faculty especially, who need to signal their individual contribution to collaborative work. But it also affects graduate students who must develop a research agenda and a reputation distinct from that of their adviser. Second, the answers to these questions can affect the quality of work we produce as a discipline by affecting the incentives for junior scholars to collaborate, the degree of accountability in collective projects and the extent to which we produce creative work over the long term. Third, these are ethical questions important in their own right. While advancing individual careers and producing work of good quality is important, it is also important as a matter of professional ethics to treat people in hierarchical relationships fairly.

1. How should the contribution of assistants be acknowledged in collaborative work?

This is typically a question faced by faculty in acknowledging the contribution of graduate student assistants. But not always. Given the resource-rich environments of many American universities, graduate students often employ assistants in their dissertation research. This is especially true among those who do field research in comparative politics, who routinely rely on "local" research assistants.

The practices that we follow in this regard include the following:
(a) No acknowledgement as long as assistants are paid
(b) A thank you in the acknowledgments
(c) A footnote in the relevant section of the published work
(d) Co-authorship
(e) Independent access to the data in addition to or as a substitute for co-authorship.
But there appears to be no standard procedure even within subfields, and the same type of work might be recognized in any of these ways.

We suggest that paying assistants should not eliminate the obligation to acknowledge their contribution. This is also the recommendation of the APSA committee on ethics, which advises that "research assistance, paid or unpaid, requires full acknowledgment."[8] But as long as we can clearly distinguish a contribution to be that of an assistant rather than a co-author, the stakes in the particular ways in which we acknowledge assistantship do not seem large. While acknowledging the contribution of others is an important practice for an author to follow, there seems little value-

[8] *Guide to Professional Ethics in Political Science*, 10.1.

added for an assistant to being recognized as such, regardless of what form that acknowledgement takes.

The main benefit from working as an assistant lies in the acquisition of experience and skills – and the opportunity the collaboration affords to produce original intellectual work. As far as possible, then, it seems good practice to enable assistants to benefit intellectually from the work they do in addition to acknowledging their contribution, by giving them access to collaboratively collected data and by proposing arrangements that help them to produce something from it.

2. What are the criteria by which we judge that an assistant's contribution to an intellectual project merits co-authorship?

Here, there does seem to be a clear principle, generally perceived as fair, which goes as follows: An author is someone who makes a substantial creative contribution to a project. If an assistant makes a substantial creative contribution to the project, s/he should be made a co-author. If s/he makes a mechanical contribution, or a minor creative contribution, s/he should be recognized as an assistant.

Implementing this principle can be straightforward in some large n quantitative projects, in which theory development, model specification and interpretation of the data are commonly seen as "creative" contributions, and data entry as a "mechanical" contribution. There are analogous divisions of labour in projects that employ other methods. In conducting an ethnography, for instance, designing interview questions, relating them to a theoretical project and interpreting the answers might reasonably be seen as creative contributions, and translating the questions or transcribing an interview as mechanical contributions. In a field experiment, the design of the experiment might count as a creative contribution, while implementing the experiment in a particular context might be thought of as primarily a mechanical contribution.

But the line is not easy to define in many instances, such as the following:

a. A faculty member defines a variable or an experiment or a question, links it to a broader theoretical project and works with assistants to operationalize it in a data collection project or a pilot experiment or a computer program. The process of operationalization has a reverse effect on the conceptualization of the project.

b. A faculty member designs an ethnographic project, while another or others conduct the ethnographies. Even when its broad contours are shaped from above, it would be difficult to call an ethnography a mechanical contribution. Ethnographies can be unique depending on the attributes of those who conduct them, the way in which they are embedded in the context they observe, and the relationships they create.

c. Faculty members trained in one set of methods hire assistants with a different methodological specialization – for instance, faculty trained in qualitative work hire students with quantitative skills to specify regression models and interpret the results.

d. A faculty member has an initial idea and defines a research question – an assistant does the bulk of the work in coding the data as it relates to the question, and writes memos interpreting the patterns emerging from the data.

In cases such as these, the line between a creative and a mechanical contribution – and a substantial and minor creative contribution -- can be difficult to determine. In practice, the same type of work in the same subfield is acknowledged as assistantship or as co-authorship.

One good practice here is to err on the side of generosity. If creative and mechanical contributions cannot be clearly separated, assistants might simply be acknowledged as co-authors. If the stakes attached to this question are simply those of the allocation of credit, this is a good principle. It is also a good teaching strategy. Recognizing students as co-authors can encourage them to think of themselves as producers rather than consumers of knowledge early in their careers.

But the stakes can sometimes be larger than that. One concern is that of accountability. As one faculty member who takes a conservative approach to allocating authorship to graduate students puts it: "I would be concerned about allowing a student speak as an author on our project: they just would not be aware of or able to defend the decisions that went into the overall design of the project." Further, the principle(s) we follow in allocating co-authorship to assistants are closely related to the principle(s) we follow in determining the appropriate order of authors. Suppose we combine a generous principle in allocating authorship to assistants with an alphabetical rule for the order of authors. In that case, a faculty member may well not end up working with students whose name comes earlier in the alphabet – or only allocating mechanical work to graduate students so that intellectual ownership is clear. This is analogous to having a high minimum wage, which can deter employers from hiring full-time workers. It may be that a generous principle on granting co-authorship requires a restrictive principle on the order of co-authors – or that a generous principle on the order of co-authors requires a restrictive principle on granting co-authorship. We turn to the practices we might follow on the order of authorship below.

3. What are the criteria which should govern the order of names on a book or paper?

There is a high variance in the norms and practices we follow in this regard. These include:

a. Listing authors in alphabetical order. This is the rule that we use most frequently: 69% of the co-authored articles published in the *American Political Science Review* in the last decade (1996-2005), 71% in *World Politics* in the same decade and 61% in the *Journal of Politics* listed authors in alphabetical order. But there are non-trivial deviations from this alphabetical rule, which appear to occur most often in articles that have more than two authors or in which the name of one author comes at the end of the alphabet, and in several influential books.

This rule has the advantage of eliminating difficult discussions about the relative contribution of individual authors. But the signal it sends about relative contributions depends on what others in the field do. If everyone in the field uses an alphabetical rule, then we can be sure that the first author is not necessarily the author with the greatest contribution. But we cannot obtain more precise information about relative contribution of authors from the order of names. If everyone in the field does not use an alphabetical rule – or the same scholars switch from alphabetical to non-alphabetical rules – then the signal depends on the principle which justifies deviations. For

instance, if scholars deviate from the alphabetical rule in cases where their contribution is disproportionately high, then the signal sent by the use of an alphabetical rule is simply that their contribution was only equal to or less than other collaborators – but not greater.

Further, this rule can also have an adverse effect on the allocation of credit. As we note above, in cases where an adviser knows recognizing a student assistant as author would also mean giving up first-authorship, she may choose not to award authorship altogether. It can also bias the selection of collaborators for the same reason.

b. Listing authors in the order of contribution. This appears to be a common alternative to the alphabetical rule. But the difficulty here is in determining relative contributions. There are many creative contributions that go into a single project, including the idea for the project, the framing of the question, the construction of a theory, the design of empirical tests, and the interpretation of data. And the mechanical contributions – for instance, writing the first draft of a book or article – can also be substantial and not always separable from creative contributions. When one person is responsible for most of these contributions, it seems fair to say that the contribution is disproportionate enough to merit first-authorship. But determining relative contributions in other cases is less straightforward. A discussion about how to determine relative contribution can be especially difficult in collaborations that involve hierarchies. Finally, listing authors by order of contribution in some works but an alphabetical rule in others can have a perverse effect on how one scholar's contribution in other collaborative works in which she has participated is interpreted.

c. Randomizing the order of authors across multiple projects: In long-term collaborations between the same group of participants, we also follow the practice of switching the order of names across multiple projects with the same co-authors. This practice can improve upon the alphabetical rule in the allocation of credit, because all participants get an equal chance of citation over the long run -- and it is equivalent to the alphabetical rule in eliminating the need for difficult discussions about relative contributions. But it does no better than the alphabetical rule in signaling the relative contribution of authors.

d. Subdividing authorship: Many projects subdivide authorship in the following ways:

(i) Distinguishing between levels of authorship: A *with* B, instead of A *and* B

(ii) Sharing authorship on a piece of the project but not the whole (e.g. A is identified as the author of a book or dataset, but A and B as authors or co-authors of individual chapters or variables).

(iii) Sharing authorship on one part of a project rather than another and varying the order accordingly (e.g. A and B are listed as the co-authors of a dataset, in that order, but B and A are listed as the co-authors of an article based on the dataset, in that order.)

(iv) Encouraging all collaborators to produce solo-authored rather than co-authored books and articles from a collaboratively collected and attributed dataset.

We do not think it is appropriate to suggest one best practice for the ordering of names. While an alphabetical rule appears to be a de facto default, there can be good reason to deviate from this default. These reasons include disproportionate contributions and the concern for credit and

accountability that go with them and institution-specific norms about how the order of names are interpreted (some search committees and promotion and tenure committees may attach considerable weight to which author is listed first). Further, for papers that have a multidisciplinary authorship or audience, a deviation from an alphabetical rule may make sense given divergent norms of authorship in other disciplines.

But in asymmetrical collaborations in which the allocation of credit can be a difficult issue to discuss, a best practice may be one of procedure rather than of substance: the onus should be on the senior person to make a case for deviating from an alphabetical default, and to do so as early as possible in the collaboration.

Further, where individual authors bear primary responsibility for distinct parts of the paper (e.g. one person collected all the data, or is responsible for researching a particular case or designing an experiment), it can also a good practice to signal the specific contribution separately from the order of names, through footnotes. This may not have a large effect on how the impact of a scholar is assessed based on citation rates and publications listed on a c.v. But it does send a clear public signal about who is accountable for what. And in asymmetrical collaborations, such clarity has the additional effect of assigning credit to younger scholars whose precise contributions may otherwise be unclear or undervalued.

4. How can we integrate graduate training with collaboration – in the form of apprenticeship or co-authorship – in a way that encourages independent thinking?

The rules that we use to organize ourselves, as a discipline and in individual departments, encourage graduate students to do solo-authored dissertations. The APSA guide to professional ethics advises that "faculty members are not entitled to claim joint authorship with a student of a thesis or a dissertation."[9] And most political science departments, as far as we are aware, do not permit dissertations that are co-authored with faculty or peers. Nevertheless, we integrate graduate training and collaboration – in the form of apprenticeship or co-authorship -- in other ways: through funding packages which require students to serve as research assistants, summer apprenticeship programs, and laboratories, programs, and centers run by faculty members which recruit several students to work together on a common project. In some cases, these collaborations provide training and experience for students working on independent dissertation projects. Others are more tightly integrated with dissertation research and advising.

Integrating collaboration with graduate training can stimulate independent research in several ways. It demystifies the process of research and provides an opportunity for students to develop new methodological skills, identify interesting research questions and acquire productive work habits. It can also encourage ambitious work, by providing economies of scale in data collection and the intellectual stimulation of discussion with others engaged in related work. Finally, involvement in a collaborative project is also an opportunity to develop close intellectual relationships, with advisers and peers that can last over the course of a scholarly career.

But collaboration with faculty can also create a high degree of intellectual and professional dependence. It can be difficult to encourage independent thinking and ambition in students when

[9] Ibid, 10.2

their research is tied to a project in which the initial creative impetus – and typically the major decisions on the organization of the project -- comes from the adviser. And quite apart from the kind of scholar that one becomes by participating in collaborative work, it can be difficult to carve out an independent reputation when a dissertation is closely tied to the research interests of a faculty member. As one student put it: "There is the subtle issue about how topics become associated with people. If a student and an adviser work together on topic X, topic X then becomes associated with him/her even though it may have been a joint idea to start with." A looser integration between dissertation and collaboration carries less dependence with it, but brings other risks. When a student collaborates with an adviser on a project unrelated to her own dissertation, it can mean that the dissertation receives less attention from both. It can be easy for a student, especially one in the early stages, to become more immersed in the research of the adviser than her own. It is equally easy for an adviser to lose sight of a student's dissertation. As one graduate student put it, ""My concern in a collaborative relationship with my adviser was not about the allocation of credit but about the use of my time. Once we began working together, it was as if my dissertation did not exist. My adviser simply had no mental space to discuss it."

Some practices that we might consider in the organization of collaborative work include the following.

a. Advisers might encourage a limited form of collaboration, largely separate from a student's dissertation work. One way of doing this is to collaborate with students on projects in their broad area of interest, but make it clear at the outset that their dissertations should not be combined with the collaboration. A second strategy is to allow some overlap – for instance to allow students to use collaboratively collected data in their dissertations – but require that the main contribution of the dissertation should be independently generated. A third strategy is to employ first and second-year graduate students as "apprentices" in a collaborative project - but encourage more advanced students to work separately. In this way, students can take advantage of the experience of collaboration without letting their dissertations be determined by it. If a collaborative project is indeed kept separate from a student's dissertation research, creating structured time to discuss student projects exclusively may be a good way to prevent the adviser's research from crowding out the questions that students are interested in.

b. A second suggestion, especially in collaborations in which dissertations and collaborative work are tightly integrated, is to pursue a "federal" or "confederal" organization in which students have an area of autonomy within the structure of a large collaborative project. In a large-n data collection project, for example, students might have primary responsibility for deciding how conceptualize and operationalize a single variable, and in determining rules of access to that variable. In a collaboratively run survey, they might be solely responsible for designing a subset of survey questions.

c. A third strategy is to expand the number of faculty, and departments, engaged in a collaborative enterprise, and thus create a "team" model of advising. In some projects, particularly those that are old enough to have acquired an institutional infrastructure, "team advising" is institutionalized through a formal review process in which members of a faculty board review research proposals by students (and sometimes junior faculty). In others, it takes the form of informal feedback given through inter-university seminars organized by the project. Collaborations of this nature can

encourage independence by exposing a student to a wide range of intellectual influences and allowing students to create a network of professional relationships.

Each of the practices listed above is suited for certain types of projects and methods but not others. But the particular models of organization we employ in structuring collaborations can have a large impact on how we train graduate students and it is worth exploring and adopting forms of organization from within and across disciplines that encourage innovation.

5. What should the mechanism be for discussion of questions about the allocation of credit and graduate training – and if there is a dispute, what should the mechanism for dispute resolution be?

Discussing some of the questions raised above – especially questions about the allocation of credit -- can be difficult even among equals. Across hierarchies of status and power, they can be close to impossible. There are constraints on both sides. For those lower on the ladder of hierarchy, the stakes are often too high to initiate a discussion. Opening a discussion can risk alienating an adviser, often with few alternative options. Even in the largest departments, there are typically only a few faculty members working on a student's topic – and in small departments there may be only one. Those on the higher end of a hierarchy – senior and junior faculty – are also constrained. Given the disproportionate weight that their words can carry, it can be difficult to engage in a candid discussion.

One good practice is for an adviser to make expectations clear at the outset and thus pre-empt the need for discussion. This is a practice also recommended in other disciplines with well-established patterns of collaboration. The American Psychological Association, for instance, suggests that "To prevent misunderstanding and to preserve professional reputations and relationships, it is best to establish as early as possible in a research project who will be listed as an author, what the order of authorship will be, and who will receive an alternative form of recognition."[10]

But this practice may not always be easy to follow. The goals, participants and time frame of a collaborative project can all change over time, and so can the relative contribution of each participant. It can be hard, therefore, for faculty members to lay out clear expectations about the allocation of credit and the extent of linkage between a project and a student's dissertation at the outset. At the same time, students need some idea of the terms of a project before they sign on, especially if the collaboration is integrated with their dissertation research. Here it can help for faculty to identify principles for the allocation of credit and the integration of dissertation research with collaboration and use these principles as the basis for provisional expectations. And it can be important for a student concerned about dissertation research to initiate a discussion early on important matters such as authorship, and ownership of data even if the faculty member does not.

If a dispute does occur, there are three possible levels at which it might be addressed: (1) At the departmental level, by contacting department chairs or directors of graduate studies. (2) At the university level, by contacting a university ombudsman or its equivalent and (3) At the level of the discipline, by contacting the Ethics committee of the American Political Science Association. But

[10] *Publication Manual of the American Psychological Association, 1.03.*

given the large variance in practices in the field, and the absence so far of some discussion about the norms that should inform these practices, it is not clear what yardsticks individuals who occupy these offices might use in their interventions. And even when clear norms exist, a dispute is costly for everyone involved and almost never ends well. Thus, at least in matters to do with allocation of credit, it is almost always better for give up a claim on coauthorship, or to relent and let someone else be a coauthor, if that is what it comes down to, since no one contribution in political science is going to win a nobel prize, and the next article can almost always be better.