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Benjamin Franklin and Colonial Money: A Reply to Michener and Wright—Yet Again

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Continuation of the Exchange between Ronald W. Michener and Robert E. Wright and Farley Grubb from the May 2006 issue of *EJW*.

[Michener and Wright Comment on Grubb (January 2006)]
[Grubb Reply (January 2006)]
[Michener and Wright Rejoinder (May 2006)]

> *Leonato*: Neighbours, you are tedious.
> *Dogberry*: It pleases your worship to say so, …; but truly,
> for mine own part, if I were as tedious as a king, I
> could find it in my heart to bestow it all on your
> worship.
> *Leonato*: All thy tediousness on me, ah?
> —Shakespeare, *Much Ado About Nothing*, Act III, Scene V

Michener and Wright (2006c) repeat their ad hominem attack on me—repeat in that they offer little that is new or original. They simply rearrange and re-cloth their prior material and present it again.[1] Much of their rearrangement consists of rhetorical games—clever attempts

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[1] They not only repeat their material from Michener and Wright (2006a), but this repetition continues back through Michener and Wright (2006b, 2005) and Michener (1988, 1987). To be fair, they do occasionally present a new anecdotal quote or engage in some ersatz rhetorical jabs with my replies, but this is hardly enough to justify a new article.

to mislead the reader without being *de jure* dishonest. As in my past replies (Grubb 2005, 2006a), I will present new research—crafted here to reveal Michener and Wright's attacks yet again for what they really are.

I will begin by deconstructing Michener and Wright's (2006c, 251-253) opening rhetorical game, which will also serve to segue into the main body of the reply. There I will use the writings of Benjamin Franklin to evaluate Michener and Wright's position on colonial money. With one possible exception, Franklin refutes Michener and Wright's claims and supports my position on colonial money. As such, Michener and Wright's endless attacks on me are really just endless attacks on Franklin. After that I will present new evidence and argumentation that decisively refutes Michener and Wright's evidence that gold dominated the specie money supply in the middle colonies in the decade prior to the Revolution. I will close by briefly commenting on the appendix to their rejoinder.

RHETORICAL GAMES (I)—THE OPENING ACT

Michener and Wright (2006c, 251-253) open with two rhetorical games, the first to establish their motives and the second to establish the key point of disagreement between us—both cleverly designed to mislead the reader. They employ a cornucopia of rhetorical tricks including the bait and switch, the faux humility, the repetition ad nauseam, the self-evaluation congratulation, the outlier-as-average, and so on. But their preeminent trick is preemptively to accuse their opponent falsely of what they themselves are actually doing in order to insulate themselves from criticism for doing said behavior. The deconstruction of their two opening rhetorical games, besides providing illumination and some amusement, will set up the substantive portion of the reply.

Game One: Michener and Wright's First Paragraph

Michener and Wright's first paragraph (2006c, 251) opens by asserting that Grubb is engaged in a radical rewriting of history. Next they express humility in the face of the complexity of the colonial economy so the reader will see them as not being ideologues or curmudgeons. They follow this by claiming that they have no codified position on colonial money and so have nothing at stake (no ulterior motives) other than to alert scholars to Grubb's questionable research. It is a wonderfully artful paragraph.

Now let's deconstruct it, peeling it like an onion backwards from the outside in. Their last sentence asserts that their only motive is to alert scholars to Grubb's questionable research. But wait a minute. All the assumptions, caveats, references to alternative possibilities, etc., that are a part of applied quantitative research are already well laid out for the reader to assess in Grubb (2004, 2006b). Nothing is hidden there. So that cannot be Michener and Wright's true motive. So what are they really up to?[2]

Let's leap to the first sentence of the paragraph and deconstruct it—which will help answer the question just asked. Michener and Wright assert that Grubb is radically rewriting history. This is an example of the rhetorical trick—repetition ad nauseam. It is a claim they repeat every time they write about Grubb (Michener and Wright 2005, 2006a). They present no research to directly evaluate or support this claim, nor do they address the evidence to the contrary (e.g. in Grubb 2005, 2006a). Instead, they hope that the mere force of repetition will plant this idea in the mind of the reader. The impression they hope to leave is that Grubb's rewriting of history is so outlandish and so far outside the mainstream that it must be highly suspect and so should be discarded or not even read.

Their assertion here is also an illustration of their most frequently used rhetorical trick—preemptively accusing one's opponent falsely of what oneself is doing to try to insulate oneself from criticism of doing exactly that. That Grubb is rewriting early American history in some outlandishly radical way is true only in the minds of Michener and Wright and true only in comparison to Michener and Wright's position on colonial money. As will be illustrated below, Grubb's position on colonial money is squarely within that taken by Benjamin Franklin—about as mainstream as one can get.

In truth, it is Michener and Wright's position on colonial money that is outside the scholarly mainstream. No one working within the field of colonial money and colonial history seriously believes their position. For example, Bruce Smith (2000), an eminent macro-economist who published extensively on colonial money, in an e-mail sent to me shortly before he died of brain cancer summed up Michener's position on colonial money as, "His interpretation of events is accepted by him [Michener] and Ben

[2] If Michener and Wright made their solicited and *unsolicited* correspondence to journal editors, grant agencies, and authors on these matters available, the reader would blanch. A different motive would appear.

McCallum. To my knowledge, no one else. I think that virtually nothing in the Michener [(1987)] Carnegie-Rochester paper is correct. . . . John McCusker supported me on this."

Now let's move into the heart of the onion and deconstruct what is left of Michener and Wright's first paragraph. They say that they "are humbled by the complexity of the early American monetary system and the meagerness of the available evidence." This [faux] humility makes them sound like tempered and reasonable scholars. But wait a minute. If the colonial economy is really that complex, too complex for them to comprehend, explain, or model for us—as they frequently say when cornered, and if the evidence is that meager, then how can they engage in such strident attacks with such certitude against Grubb, as well as against other scholars working on colonial money? They cannot have it both ways—being humbly ignorant as well as all-knowing arbitrators of truth in the field.

The real point of their "complexity" and "meagerness" of evidence sentence, apart from the faux humility rhetoric, is to insulate their model from any meaningful test and so avoid having it falsified. Their position is so complex, so unexplainable, and so unfathomable that it is irrefutable. No evidence or arguments to the contrary can touch them. This leads to the last part of their opening paragraph.

In the middle of their first paragraph Michener and Wright (2006c, 251) appear to claim that they no longer hold that specie was generally plentiful, that exchange rates were meaningfully fixed, and that bills of credit often circulated as a media of exchange among the populace of neighboring colonies. Seemingly any outcome here is possible. They say this so the reader will see them as not being dogmatic ideologues and so see them as disinterested evaluators of Grubb's research. But wait a minute—what they just said sounds a lot like Grubb's position. Why then do they make such a fuss? While seemingly any monetary outcome is possible, they still claim to know one thing with certainty and that is whatever Grubb says is absolutely wrong and should be dismissed, not used, and not even read. Now there is an ad hominem position if ever there was one!

Have they really had a change of heart on the issues of specie scarcity, fixed exchange rates, and currency substitution, or are they playing a rhetorical game on the reader? That they really have abandoned their prior position (Michener 1987, 1988; Michener and Wright 2005, 2006a, 2006b) is inconsistent with the rest of their rejoinder and its unwavering attack on Grubb and certitude over his errors. The syntax in their rejoinder is most consistent with their either hoping that the reader will not refer back to their prior works when reading their rejoinder to note the contradictions or with them not fully comprehending their own model.

They phrase their faux retraction in terms of not having made "blanket" claims, namely absolute, always, and forever statements. But of course no one accuses them of such. The debate is not over absolutes but over what is dominant, average, typical, most likely. In other words, they use the existence of atypical exceptions to make it appear as if they do not hold the radical positions that they do. For example, they, along with most scholars, accept that specie was scarce in Massachusetts in the 1740s, New York bills of credit did not circulate in Georgia, and South Carolina exchange rates rose dramatically in the 1710s and 1720s. But none of these exceptions are for the time and place of our debate, namely for the middle colonies from New York to Maryland during the period of the 1720s to the Revolution. For that time and place, Michener and Wright still believe as a general rule that the money supply was dominated by specie, exchange rates were fixed enough to foster a high degree of currency substitution, and so bills of credits circulated as a media of exchange among the general populace of neighboring colonies. In other words, they really do have a lot at stake because Grubb's findings (2004) are inconsistent with their claims. Their motives are not as pure as they wish the reader to think.

The claim in their first paragraph (Michener and Wright 2006c, 251) that exchange rates oscillated within broad specie points has a slightly different purpose. Such a claim is still a claim that exchange rates were fixed, even though no colonial government ever actively intervened in the foreign exchange market to manage their exchange rate in an on-going manner. They also appeal now to legal tender laws as the primary mechanism that fixed exchange rate rather than to some mysterious conspiracy of merchants. As such, they have not set aside their assumption of fixed exchange rates for Grubb's position that rates were more floating than fixed.

Their claim that "exchange rates oscillated within broad specie points" is merely an effort to escape a falsifiable position, i.e. to insulate their model from meaningful testing. In other words, there is no movement in exchange rates that can refute their assertion that exchange rates were fixed. Exchange rates can fluctuate widely and wildly and still Michener and Wright's model of fixed exchange rate regimes in colonial America is upheld (Michener 1987). In other words, their model is irrefutable.[3]

[3] On the next page they say that "'Dollar' and 7 shillings 6 pence were synonymous in late colonial Pennsylvania…" (Michener and Wright 2006c, 252) Apparently, the oscillation of

However, if rates can fluctuate that much then over the relevant range you have a de facto floating exchange rate regime. And the whole point of Michener's (1987, 1988) assertion (carried through Michener and Wright) of fixed exchange rates is to establish tight enough (costless enough) currency substitution that colonies' money supplies are determined principally by their money demands. In other words, specie and the bills of credit of the various colonies all flowed more-or-less costlessly across colonial borders to accommodate given money demands. Thus, prices in a given colony will not correlate with any one component of its money stock, which is the key payoff point of their modeling exercise (Grubb 2006a, Michener 1987). Now, if exchange rates oscillate within a "broad" range, Michener and Wright's low-cost currency-substitution model is destroyed and their entire edifice of how the colonial monetary system worked falls apart. Either they do not understand their own model of colonial money or they hope the reader will not refer back to their prior work when reading their attack on Grubb here.

Having been deconstructed, Michener and Wright's first paragraph (2006c, 251) can now be re-imagined as saying: *We have a position on colonial money that no one seriously believes in and it pisses us off. How dare anyone disagree with us? Such people are wrong-headed and misguided. After all, our position is irrefutable. Our model of colonial money is so complex that it cannot be explained by us nor can it be comprehended and tested by anyone else. There is no way our model can be falsified, especially given our ability to dispute any evidence. Our motive here is to hunt down unbelievers like Grubb and drive them from our temple of colonial money.*

Game Two: Their Second and Third Paragraphs

Michener and Wright in their next two paragraphs (2006c, 252) seek to establish the key point of disagreement between themselves and Grubb. That being, according to them, Grubb confuses units of account with media of exchange while they make no such confusion. This makes all of Grubb's research wrong and so all of it should be discarded and not even read. This is the key point that they repeat ad nauseam in every paper they have written attacking Grubb, and even in papers not directly dealing with

exchange rates "within broad specie points" only lasts one page for them. There claim here is also an example where they confuse the customary exchange rate used when referring to units of account with the actual exchange rate used when trading in different physical mediums of exchange.

Grubb (Michener and Wright 2005; 2006a; 2006b, 24). They need to establish this point because without it they have no paper, i.e. they have no meaningful position with which to attack Grubb and others working on colonial money who found results that conflict with their position. Yet, their presentation here is a rhetorical game designed to cleverly mislead the reader without being *de jure* dishonest.

Let's read the language in their second paragraph carefully. In reference to evidence enumerated in Pennsylvania pounds, Michener and Wright say "We believe that…[it] usually meant…" units of account. They say "usually meant" which means not always meant. So Michener and Wright are saying that evidence enumerated in Pennsylvania pounds sometimes meant media of exchange (Pennsylvania paper bills of credit) and sometimes meant just a unit of account. Now let's see how Michener and Wright characterize Grubb's position. They say that "Grubb believes that in certain transactions…" evidence enumerated in Pennsylvania pounds "invariably meant…" media of exchange. They say "certain transactions" not all transactions. So Grubb must believe that evidence enumerated in Pennsylvania pounds sometimes meant media of exchange and sometimes meant just a unit of account. [This interpretation of Grubb also accords with, and is well stated in, Grubb (2004, 331-332).]

Given this closer look at their characterizations of their and Grubb's position on this issue, darned if I can see any difference. Both Michener and Wright and Grubb hold that evidence enumerated in Pennsylvania pounds sometimes meant units of account and sometimes meant media of exchange. There is no conflation of units of account with media of exchange by Grubb or by Michener and Wright as a general principal. They both believe the same thing. As such, Michener and Wright have continuously mischaracterized their key point of disagreement with Grubb, and they have purposely done so because revealing the true point of disagreement would kill their attack.

Since both Grubb and Michener and Wright believe the same thing, namely that evidence enumerated in Pennsylvania pounds can mean either media of exchange or units of account, the key difference between them becomes what criteria they use to decide when evidence is most likely reflecting units of account as opposed to most likely reflecting media of exchange. Michener and Wright never formally state their criteria. In fact they say it is just too complex to comprehend and explain to the reader. But they obviously employ some criteria, and if one works back through their publications one consistent criterion comes through, namely that what ever is inconsistent with their model of colonial money is branded as unit-of-account evidence and dismissed. Evidence which supports their model is more likely to receive their approval as media of exchange. This is a purely self-serving selection criterion, serving to make their model irrefutable. No evidence can ever be uncovered that will refute their model because such evidence by their criterion can be stamped as just unit-of-account evidence and so dismissed.

By contrast, Grubb (2004, 2006b) seeks to establish some independent criteria, using objective standards, for assessing when quantifiable evidence would most likely reflect media of exchange rather than just units of account. The outcome of this search led to evidence which contradicts many aspects of Michener and Wright's model of colonial money. This in turn is what has put them into such an apoplexy.

The real point of disagreement between Grubb and Michener and Wright is not that Grubb is somehow naively and hopelessly confused over media of exchange versus units of account, but is over the models of colonial money each bring to the table. So let's remind ourselves what those differences are, and let's start with Grubb's model. For the middle colonies between the 1720s and Revolution, Grubb (2004) finds that as a general rule the paper money of a given colony (when it issued paper money) dominated monetary transactions within that colony among its general populace.[4] Bills of credit of neighboring colonies and specie were used more rarely. Specie became less scarce among these transactions in the decade before the Revolution as relatively more Spanish silver dollars flowed into the colonies through trade surpluses and lingered longer before flowing back out to cover trade deficits. He finds, as a general rule, little evidence of large scale or tight currency substitution between specie and paper money and between the paper monies of neighboring colonies with regard to usage among the general populace. As such, his evidence is consistent with the institutional evidence indicating that the colonies operated under more of a floating than a fixed exchange rate regime.[5]

[4] He also assumes that when a unit of account has no physical representation, people behave in a certain way and mean a certain thing when referring to it. But when a physical representation is created for that unit of account—a physical bill of credit is put into circulation—people will behave differently and mean something different when referring to its value than when there was no physical representation of that unit of account. A change in constraints elicits a change in behavior.

[5] Among merchants engaged in foreign, overseas, and cross-colony trade specie and the paper money of other colonies may well have been important media of exchange within their monetary transactions. Certainly, a lot of specie passed through the colonies, imports then exports of specie, via these merchants dealing in the extensive multi-lateral foreign trade of the day. And certainly merchants dealing in cross-colony trade engaged in the

There was a strong "inside" versus "outside" dichotomy in colonial monetary systems.

By contrast, Michener (1987, 1988) and Michener and Wright (2005, 2006a, 2006b, 2006c) postulate that these colonies operated under a fixed exchange rate regime. Rates were held fixed by legal tender laws and/or a conspiracy of colluding merchants, so proven by the existence of several coin rating tables. They further postulate that these fixed exchange rates produced tight enough (costless enough) currency substitution parameters that money supplies were indeterminate. As such, specie and the bills of credit of neighboring colonies more-or-less flowed costlessly across colonial borders to accommodate money demand.[6] There was no "inside" versus "outside" dichotomy to colonial monetary systems. While cross-colony circulation of paper money was frequent and substantial, they hold that specie still dominated the media of exchange among monetized transactions throughout—else currency substitution of paper for specie money would have caused substantial inflation which was not observed (see also the discussion in Grubb (2004, 2006a)).[7] Finally, they claim that gold, not silver, dominated the specie money supply in the middle colonies in the decade prior to the Revolution.

exchange of paper money among the different colonies they transacted trade across. But this should not be confused with what dominated the monetary media of exchange among the general populace for trade within a given colony—the purely internal commerce of a given colony.

[6] They also argue that when a unit of account has no physical representation, people behave in the exact same way when referring to it as when a physical representation is created for that unit of account, i.e. when a physical bill of credit is put into circulation—as such for the Pennsylvania pound before versus after 1723 (Michener and Wright 2006a, 6-8; 2006b, 25; 2006c, 252-253). As such, their position is that a change in constraints elicits *no* change in behavior. This is a very odd position for a Chicago economist to take. This is also part of their bait and switch rhetorical tactic, i.e. confusing evidence from before bills of credit were issued with behaviors after bills of credit were issued.

[7] Their model and arguments also make no distinction between what circulates as a media of exchange among the general populace and what is used by merchants engaged in foreign and cross-colony trade.

BENJAMIN FRANKLIN: WHAT WOULD HE THINK ABOUT THIS?

No other American was involved over as long a period of time with so many different facets of colonial paper money as was Benjamin Franklin—certainly no other American with such a preeminent stature in science, statesmanship, and letters. Franklin arrived in Philadelphia the year paper money was first issued by Pennsylvania (1723). And he was the elder statesman at the U.S. Constitutional Convention in 1787 that brought this colonial monetary system to an end (Grubb 2006c). In between Franklin was a keen observer of, and commented often on, the colonial monetary economy. He wrote pamphlets, treatises, and commentaries on paper money. He designed and printed paper money for various colonies. He entertained ideas about and proposed alternative monetary systems. As an assemblyman for the colony of Pennsylvania he was involved in the debates over and management of that colony's paper money. And as a lobbyist for various colonies to the British court, he dealt with conflicts over colonial paper money that arose between Britain and her colonies. As such, Franklin's views should carry considerable weight in determining what the colonial monetary system was like.

On virtually every aspect of colonial money, Michener and Wright's model is contradicted by, while Grubb's model is consistent with, Franklin's views.[8] Franklin sees specie as being relatively scarce as a media of exchange among the general masses in the colonies. Even within the colonial merchant community involved in overseas trade, Franklin sees specie availability as subject to large swings due to ubiquitous foreign trade shocks that frequently stripped a colony of its specie. Fluctuations in the amount of specie and its relative scarcity in the colonies were due to foreign trade shocks, chronic balance of trade deficits, and British-imposed absences of trade and capital controls in the colonies. It was not due to currency substitution between issuances of paper money and specie. Franklin sees colonial paper money as predominantly an inside money, seldom being exported or circulating as a media of exchange among the general populace of neighboring colonies and states. Its value is governed by the quantity of

[8] For examples see, Smyth (1907, 1:254, 260-262, 276; 9: 235; 10:106-107); and Labaree, Willcox, and Oberg (1959-1998, 1:147, 152; 4:345, 348; 5:194; 6:519; 7:123; 9:144-151; 13:465; 14: 33-39, 77-87, 185, 228-232, 286-287; 34:230). Franklin's work and thoughts on monetary issues are deeper, richer, and more complex than presented here. This presentation, however, must suffice for the purposes of this reply.

it issued relative to the demands of internal commerce and not by the operation of some fixed exchange rate regime. Finally, Franklin explains that Pennsylvania's legal tender laws did not create a fixed exchange rate regime. Legal tender laws served a different purpose, not unlike that served in today's economy.

In 1723 at age 17 Franklin travels from Boston to Philadelphia. He has specie in his pocket and no paper money, even though he says that the primary money used in Boston at this time was paper money. He returns to Boston in 1724 again with only specie in his pocket and no paper money even though he says that prior to Pennsylvania issuing paper money in 1723 the colony had been stripped of its gold and silver. On his return to Philadelphia, Franklin is instructed to collect a debt of 35 pounds currency due to be paid in Pennsylvania to a friend of Franklin's brother who lives in Rhode Island. He is to collect the money in Pennsylvania and keep it until he has "directions what to remit it in" to Rhode Island. Franklin travels to London from Philadelphia late in 1724 and again has only specie in his pocket and no paper money. (Labaree, Willcox, and Oberg 1959-1998, 1:147, 152, 14:78; Smyth 1907, 1:254, 260-262, 276)

Franklin's behavior in the 1720s is illustrative of the fact that a colony's paper money served predominantly as an inside money and did not readily cross colonial borders as a media of exchange among the general populace. Specie, though relatively scarce, was the principal cross-colony and cross-oceanic media of exchange. Franklin's writings throughout his life are consistent with his 1720s behavior. In 1729 he says, "…we [Pennsylvanians] have already parted with our silver and gold…" in trade with England, and that the difference between the value of paper and that of silver is due to "the scarcity of the latter." In 1752 as a Pennsylvania Assemblyman he reports that paper money furnished "…the country with a medium of trade, and of a kind that could not, to any purpose, be exported…" And that without paper money "…the province will then be left without any currency, except that precarious one of silver, which cannot be depended on, being continually wanted to ship home, as returns, to pay for the manufactures of Great Britain." Similarly, in 1757, he reports that the specie inflows during the late war were "…since drawn out of the province for payment of the army…and for payment of our debts to merchants in England; so that a piece of gold is now rarely received in payment." (Labaree, Willcox, and Oberg 1959-1998, 1:147, 152; 4:345, 348; 7:123)

These observations continue after Franklin goes to London as a lobbyist for the colonies. In 1767 he writes that Britain could retain specie as a media of exchange because Britain has capital and trade controls. But the colonies are not allowed such controls and so "…they cannot keep gold and silver among them sufficient for the purposes of their internal commerce…", and that "Paper bills...have therefore in the colonies long been substituted for real money." Franklin also argues that the claim so often made that it is the very issuance of paper money itself that causes specie to be carried out of the province and so is the primary cause of specie scarcity (the currency-substitution claim) is "…a mere speculative opinion, not founded on fact in any of the colonies. The truth is, that the balance of their trade with Britain being generally against them, the Gold and Silver is drawn out to pay that balance; and then the necessity of some medium of trade has induced the making of paper money, which could not be carried away….The balance of trade carry'd out the gold and silver as fast as it was brought in…" Franklin also notes that specie has a "universal estimation" but "…that very universal estimation is an inconvenience which paper money is free from, since it [specie] tends to deprive a country of even the quantity of currency that should be retain'd as a necessary instrument of its internal commerce; and obliges it to be continually on its guard in making and executing at a great expense the laws that are to prevent the trade which exports it [specie]." Finally, even into the early 1780s, Franklin continues to explain that, "It has been long & often observed, that when the current money of a country is augmented beyond the occasion for money, as a medium of commerce, its value as money diminishes…if some means are not found to take off the surplus quantity. Silver may be carried out of the country that produces it, into other countries,… Paper money not being easily receiv'd out of the country that makes it, if the quantity becomes excessive, the depreciation is quicker & greater."[9] (Labaree, Willcox, and Oberg 1959-1998, 14: 33-34, 78-79, 83; 34:230)

That Franklin saw a colony's paper money as predominantly an inside money is also revealed in the nature of his grand scheme for supplying the colonies with a general paper currency. In 1765 Franklin proposed that the British establish a North-American-wide land bank (supervised in part by the Bank of England) where paper money would be issued upon the security of mortgaged land in any colony. This paper money could then be

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[9] In 1760 the British Board of Trade reached the same conclusion. In reference to Pennsylvania they said, "…that the paper currency…has been issued in this colony, and in the other provinces of North America,…to serve as a medium of circulation *within* the province; the balance of trade being so much against them, that gold or silver is very difficult to be procured." [italics added] (Labaree, Willcox, and Obreg 1959-1998, 9: 147)

made a legal tender across all the colonies (this may be the first proposal ever made for what amounts to a "national" paper currency for North America). Franklin's proposal presupposes that the current system of separate colony-specific issuances of paper money functioned predominantly as inside money, not generally flowing as a media of exchange across colonial borders among the general populace. His proposal, among other things, would overcome this "localism" of paper money and yield a more "national" usage. Alas, the uproar over the Stamp Act led Franklin to bury, hide, and disavow his proposal. It was forgotten. (Labaree, Willcox, and Oberg 1959-1998, 12: 51-61)

The one exception Franklin relates to his general view that a given colony's paper money was predominantly an inside money is for Maryland in the early to mid-1760s. This case is also used by Michener and Wright (2006a, 24-27) as evidence for their claim that cross-colony circulation of paper money was commonplace. Early in 1767 while in London Franklin wrote up some "Hints of Arguments" regarding legal tender laws to be used in his effort to get the British to repeal their last currency-act legislation. There he says that as Maryland moved towards retiring all its outstanding paper money in 1764, that money ceased to serve as a medium of exchange. As a consequence, having no paper money of their own and insufficient specie to transact commerce, Marylanders acquired and used Pennsylvania paper money as a medium of exchange. [New Maryland paper money to replace that retired in 1764 would not be issued until 1767.] (Labaree, Willcox, and Oberg 1959-1998, 14: 37-38; Newman 1997, 164-167)

This one exception hardly invalidates Franklin's general rule that a colony's paper money functioned predominantly as an inside money and seldom circulated as a media of exchange among the general populace of other colonies (especially in other colonies that had their own paper money). In addition, the extent of this exception remains questionable. Was it just some minor increase in the usage of Pennsylvania pounds for a few years by merchants dealing in cross-colony trade or did Pennsylvania pounds as a media of exchange penetrate the general populace of Maryland over some extended period for use in their internal trade? The little evidence out there speaks to the former and not the latter (see Grubb 2006a, 63-64; Michener and Wright 2006a, 24-27). Finally, doubts about the extent of this exception can also be taken from the fact that Franklin publishes all the arguments out of his "Hints of Arguments" except the story of Marylanders using Pennsylvania pounds. Why was this one argument not published? Was it just an oversight? Or was it because this story was not generally true, or ceased to be true after a year or two, or was exaggerated and people in America would know it? (Labaree, Willcox, and Oberg 1959-1998, 14: 32-39, 77-87)

Finally, Franklin writes a lot about the role and function of legal tender laws—a key point of difference between Grubb's model and Michener and Wright's model of colonial money. For Pennsylvania, Franklin contradicts Michener and Wright's assertion that legal tender laws effectively fixed exchange rates and thus the value of paper money. Franklin argues that it is the quantity of paper money relative to the volume of internal trade within a colony that governs its value, and not legal tender laws. Exchange rates between paper money and specie are determined by their relative supplies or scarcities compared with the relative demands for inside versus outside trade. For example, Franklin notes that, "…too great [a] quantity [of paper money] has, in some, colonies, occasioned a real depreciation of these bills, tho' made a legal tender…"

For legal tender laws to effectively enforce a fixed exchange rate, the courts must impose that fixed exchange rate when settling cases when the legal tender is substituted for some other contracted payment. Just like for our modern economy, Franklin notes that this did not happen. Courts used the expected market-determined exchange rate and not some fixed rate to equate values between media of exchange when settling cases. In 1767 Franklin observed, "…it having ever been a constant rule there [in the middle colonies] to consider British debts as payable in Britain, and not to be discharged but by as much paper [money] (whatever might be the rate of exchange) as would purchase a bill for the full sterling sum." Franklin goes on to write in a draft petition, "…in the Courts of Justice [in Pennsylvania], full satisfaction has ever been given in discharge of debts due to the British merchant…"[10] In 1760 the British Board of Trade made the same observation. They concluded that Pennsylvania had been exempted from the Currency Act of 1751 that forbid making paper money a legal tender because "…the province had, without a Law, come of itself very near the regulation which the Law would have prescribed." (Labaree, Willcox, and Oberg 1959-1998, 9:149; 14: 34-36, 80, 185)

Rather than fixing exchange rates, Franklin explains that legal tender laws had a different function. Because colonial paper money was backed by a government pledge of redemption at some future date, there could be a

[10] Brock (1975, 553), Michener and Wright's definitive authority on colonial money, basically makes the same observation. He says, "Nor is there record of protest from British merchants trading to Pennsylvania that they suffered as a result of Pennsylvania's paper [money] issues, for the practice was to allow payment of sterling debts in colonial currency only when bills were tendered in quantity equivalent to the sterling value of the obligation."

time discount built into its current value. Just as a commercial bill of exchange trades at a discount off its face value reflecting, in part, the time to its redemption, colonial paper money might suffer some discount off its face value reflecting the time to its redemption. Legal tender laws simply removed this time discount dimension from paper money and so caused it to trade at its nominal face value, other things equal. In other words, unlike with comparable commercial bills of exchange, one Pennsylvania pound redeemable in 2 years and one Pennsylvania pound redeemable in 5 years would both trade at their face value to each other concurrently under a legal tender law. As such, legal tender laws served merely to remove confusion over the internal nominal valuation of a colony's various paper money issues. (Labaree, Willcox, and Oberg 1959-1998, 14: 35-39, 86)

The other purpose of legal tender laws was "…the convenience to the possessor where *every one* is oblig'd to take them…" (Labaree, Willcox, and Oberg 1959-1998, 14: 34) While not fully articulated by Franklin, from the totality of his writings on the subject, this appears to mean solving the short-run or temporary hold-up problem in trade. Franklin sees outside monies (specie) as being prone to substantial and unexpected short-run fluctuations in availability, say due to unexpected foreign trade shocks. Inside monies (the paper monies of the colonies) were not prone to these effects. If a creditor who was owed a payment in outside money could refuse being paid in an equivalent amount of inside money, say at its expected market exchange rate of outside to inside money, then the creditor could exert undue leverage over the debtor when outside money was unexpectedly and temporarily scarce. Under such a circumstance, the creditor could extract more payment than the expected market equivalent of the outside money owed by threatening the debtor with debtors prison for non-payment of the specific outside money. Legal tender laws removed this creditor-extortion possibility—Shylock's demand for a literal pound of flesh and no equivalent (Shakespeare, *Merchant of Venice*).

In conclusion, on every significant point of difference regarding colonial money, Franklin supports Grubb and refutes Michener and Wright. As such, Michener and Wright's endless attacks on Grubb are really just endless attacks on Franklin. Now all this evidence is anecdotal, and I am the first to put little definitive weight on anecdotal evidence, though there is a fair amount here and Franklin is remembered as 'the wisest American' of his generation (Spiegel 1987, 415). Michener and Wright could always brand Franklin as hopelessly partisan on monetary issues and so dismiss him out of hand. But Michener and Wright live and die by unparsed anecdotal evidence. So by their own methodological standards the evidence here utterly demolishes their model of colonial money and strongly supports that used by Grubb (2004). As such, Grubb is well within the mainstream and Michener and Wright are far outside the mainstream on the issue of how the colonial monetary system worked.

"HORTENSIO PEACE! THOU KNOW'ST NOT GOLD'S EFFECT"
—Shakespeare, *The Taming of the Shrew*, Act I, Scene II

"[SILVER] DOLLARS ARE HERE NOW AS PLENTY AS DIRT"
—Johnson (1957, 12: 745)

Michener (1987, 1988) and Michener and Wright (2005, 2006a, 2006b, 2006c) claim that specie dominated the colonial money supply.[11] In addition, they claim (2006a, 2006c) that in the decade prior to the Revolution this specie was primarily gold. This last claim will surprise scholars of colonial America who will likely find it preposterous.

Michener and Wright (2006a; 2006c, 12) support their claim by saying "Gresham's Law" (bad gold coins drove out good silver coins) and by presenting one new anecdotal quote that appears to indicate that silver was scarce relative to gold. However, Michener and Wright's use of Gresham's Law is just theoretical bluster. On closer examination it is not applicable, i.e. they fail as economists here. And their new anecdotal quote is an evidential bluff. As with much of their anecdotal evidence, it is presented in a manner that misleads the reader, i.e. they fail as historians here.

The Theoretical Bluster: Gresham's Law

Gresham's Law—bad money drives out good money—when applied to gold versus silver coins, depends on someone fixing the exchange rate of gold to silver at a rate different than that determined in the marketplace by the forces of supply and demand. Typically this is done by a government through force of law at that government's mint (Greenfield and Rockoff 1995, Harris 1987, Rolnick and Weber 1986). But in this period there are no mints in British colonial America and no British colonial governments are

[11] In the colonies and for the periods that are the focus of their attacks on Grubb.

fixing and enforcing gold to silver exchange rates different from the rates in the open market. Therefore, Gresham's Law is not applicable here. As such, Michener and Wright (2006a, 2006c) do not know what they are talking about.

Now, in an effort to salvage their Gresham's Law approach, Michener and Wright could be interpreted as arguing that a private cartel of merchants in colonial America operated effectively in place of a government and its mint in fixing the exchange rate between gold and silver in America to be different than the rate determined in the open market. They certainly appear to argue that way. They constantly present coin-rating tables which they take as prima facie evidence of this, and then deduce from other evidence that this cartel must have been fixing this rate at some non-market determined level (Michener 1987, 1988; Michener and Wright 2005, 2006a, 2006b, 2006c).[12]

Michener and Wright's interpretation, however, violates rational maximization. If some informal cartel of colonial merchants agreed to over-rate gold relative to silver, then other colonial merchants would stick these cartel merchants with gold instead of silver when trading with them. Gold would pile up among these cartel merchants and silver would come to dominate specie circulation in the rest of the colonial economy outside the cartel: the exact opposite result from what Michener and Wright claim would happen. Finally, the merchant cartel would lose money, being stuck with a lot of gold that was valued less in the international market than what they valued it at when trading for it.

Now Michener and Wright (2006a, 31-33) do estimate that the relative price of gold to silver in colonial America was higher than in England in the decade before the Revolution, i.e. $(Pg/Ps)a > (Pg/Ps)e$ [P = price; g = gold; s = silver; a = colonial Pennsylvania; e = England]. Thus, silver, relative to gold, should flow from colonial Pennsylvania to England in this period. But this isn't Gresham's Law. It is just market arbitrage, and is a necessary condition in the face of the relative rise in the amounts of silver compared with gold being produced in the Americas. Far from contradicting Grubb's position on the rise in the use of silver relative to gold in Pennsylvania in this period, their evidence is actually consist with Grubb's findings (2004, 340).

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[12] This coin-rating-table evidence is not new to Michener and Wright. They did not discover it. See Solomon (1976, 35, 39, 41). But neither is it interpreted by other scholars as Michener and Wright do.

Commodities are flowing all over the Atlantic economy as the forces of market arbitrage react to shifting relative price inequalities between locations. Relative prices in receiving locations must be higher, and remain higher, than in sending locations by at least the cost of transportation to sustain an on-going flow of commodities across the Atlantic. Specie is no exception. The New World produced the lion's share of global specie and this specie had to be distributed through trade to the rest of the world. This was a long-run on-going flow event, not some fixed stock position in an instantly arbitraged static equilibrium as Michener and Wright (2006a, 31) claim.

Barrett (1990, 224-226, 238) finds that "…from 1493 to 1800, 85 percent of the world's silver and over 70 percent of its gold came from the Americas. In each century both absolute production and the relative share of the Americas in the world increased…" The production of gold relative to silver, however, was highly concentrated. "Production of gold in Brazil [Portuguese gold] lasted only slightly more than half a century, from before 1700 to the 1750s…" As gold production plummeted after 1750 silver production continued to rise rapidly. Between 1726-1750 and 1751-1775 Barrett (1990, 242-243) finds that New World silver production increased 26 percent, and while silver exports to Europe increased they did not keep pace with this expansion. As such, the retention of silver in the New World (new production minus exports) increased by 53 percent.[13] These observations accord well with what Grubb (2004, 340-341) finds for Pennsylvania.

Now in the decade before the American Revolution, this burgeoning production of silver relative to gold had to be moved from the New World to the Old. The British North American colonies were an important conduit in this movement—trading goods to Spanish America for silver and then exporting this silver to England for English goods. For this to happen, silver had to be under-valued relative to gold in the Americas compared with that in Europe. [Gold had to be over-valued relative to silver in the Americas compared with that in Europe.] In other words, $(Pg/Ps)a > (Pg/Ps)e$ which is exactly what Michener and Wright report. Michener and Wright have merely discovered the conditions necessary for global market arbitrage in an ongoing dynamic setting. For them to use this observation to imply that little silver was left in the middle colonies for use as a media of exchange relative to gold because it was all exported to Europe is to confuse a fixed static setting for an ongoing dynamic one.

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[13] See also Attman (1986, 26-29, 66, 70) and Fischer (1996, 128-129).

Not only is Michener and Wright's observation of [(Pg/Ps)a > (Pg/Ps)e] a sign or necessary condition of, and caused by, the relative excess of silver (or access to silver) in the middle colonies, but given the rising retention of silver in the Americas in this period cited above (Barrett 1990, 242-243), this relative gold-to-silver price inequality was not sufficient to carry all the increased silver production (relative to gold) to Europe. As such, Michener and Wright's analysis is inconsistent with their conclusion and actually supports Grubb's (2004) position.

The Evidential Bluff: Quoting from the Papers of Sir William Johnson

In support of their claim that gold, not silver, dominated the specie money supply in the middle colonies in the decade before the Revolution, Michener and Wright (2006c, 12) present one new anecdotal quote as proof of their position. They say,

> We recently unearthed evidence that supports our view that Spanish dollars were relatively scarce in Pennsylvania during this period. In November 1768 Sir William Johnson enlisted James Tilghman of Philadelphia to gather some for him. Tilghman sought to accommodate him, but cautioned "its very probable we may be obliged to make up some deficiency with half Jo[hannes]s, as the dollars are extremely scarce" (Tilghman 1768). Tighman's comment is perfectly sensible under our interpretation, but problematic for Grubb, since Grubb (2004, 340, Fig. 1) indicates that dollars, instead of being "extremely scarce" in Pennsylvania in 1768, were more plentiful than they had been at any time in the previous four decades.

But as is often the case with the anecdotal evidence that Michener and Wright present, they have misled the reader and are completely wrong about what their historical source really says about the relative amount of silver to gold in this period. The *Papers of Sir William Johnson* (1921-1965), 14 well-indexed volumes, are in your nearby university library. They are not hidden or buried or in need of being "unearthed" as Michener and Wright claim to have done. And when the above quote presented by Michener and Wright (2006b, 12) is presented in just a slightly expanded version, a very different impression emerges. Tilghman actually wrote (Johnson 1928, 4: 507-508),

> We are collecting dollars with all possible dispatch in order to fulfill our Engagements on Account of the Indian purchase and I am in great hopes we shall nearly accomplish our Quantity in time however you may depend upon having the full Sum in time tho its very probable we maybe obliged to Make up some deficiency with half Jo[s]. as the dollars are extremely scarce.

Based on this fuller quotation, silver dollars appear to dominate the specie money supply with at best a few gold coins around—enough to "make up some deficiency" when pressed for time in the hasty fulfillment of a large order for silver dollars. In no way does this evidence mean what Michener and Wright try to make it mean (that as a general condition silver is very scarce and gold is very plentiful), nor is this evidence at odds with the evidence in Grubb (2004, 340).

In addition, when the complete works of Johnson (1921-1965) are consulted only a handful of references to gold Johannes can be found compared with an overabundance of references to silver dollars. And lest Michener and Wright try to play their game of asserting that any reference to "dollars" are just unit-of-account references and not references to actual coins in order to dismiss any contrary evidence to their position, let's quote a few more passages. Abraham Mortier wrote Johnson in November of 1768 (Johnson 1928, 6: 458),

> I wrote you in September last before I set out for Fort stanwix requesting you would send me a Parcel of Dollars for to pay the Indians with,… I had reason to Expect you would answer my Demand, but I never had even a Line from you on the Subject, which distressed me greatly and Obliged me to set every Engine to work on my own Credit to get between four and five thousand pounds in Dollars, nay I was obliged to Borrow 3000 Dollars from the mohawks money which Mr. Remsen then paid them for Kayadarosseras—

Allan Grant wrote Johnson in August of 1769 (Johnson 1957, 12: 745),

> [A]s to the report of the Traders here saying that you gave pewter Dollars to the Indians there has been no such thing said by any body here, the Traders know very well to the Contrary, they have all made fortunes here this Summer intirely owing to the Number of Dollars you gave the five Nations this Summer, they are much better off than the Commanding Officer this year. Some Cayugas asked the traders here if they were not pewter Dollars, I fancy owing intirely to their getting so many at once. Dollars are here now as plenty as dirt—

John Watts wrote Johnson from New York City in January of 1769 (Johnson 1928, 6: 587), "The Proprietary Agents were put to it to raise so much Silver, I was lucky enough to collect near One half of it by Bill on philad[a]. when Nothing else wou'd do it." Finally, William Gamble wrote Johnson from Albany, New York in December of 1772 to transmit an account of monies received (Johnson 1933, 8: 675-677). Out of the 910 coins listed in the account, 94 percent were silver coins and 6 percent were gold coins. In terms of value, 68 percent of the coinage value was in silver and 32 percent was in gold.

And lest the reader think that the *Papers of Sir William Johnson* (Johnson 1921-1965) provide the only anecdotal evidence in support of Grubb's estimates (2004, 340) and against Michener and Wright's claim (2006c, 12), let me offer a totally unrelated anecdotal quote from this period. Johann Carl Büttner was a German indentured servant in the Delaware Valley from 1773 to 1776. In his memoirs he wrote, "At that time there was current in Pennsylvania a good deal of paper money. . . . Also there were whole and half coins of Spanish silver money, which were chopped into four and sometimes into eight pieces. These pieces were used as change and business currency." (Klepp, Grubb, and Pfaelzer de Ortiz 2006, 230) Büttner never mentions any gold coins being around. Büttner's characterization of the composition of the money supply in Pennsylvania in this period is consistent with the relative quantitative estimates in Grubb (2004, 340) and directly at odds with what Michener and Wright claim (2006c, 12).

The *Papers of Sir William Johnson* (Johnson 1921-1965) also provide evidence to overturn Michener and Wright's claim that the paper money of different colonies circulated freely as currency among the general populace of neighboring colonies. Benning Wentworth wrote to Johnson on June 17, 1755 from Portsmouth, New Hampshire regarding participation in the combined colonial assault on Crown Point, "The money Granted for Carrying on the Expedition being paper, it has no Currency either in the Massachusetts or in New York Governments, for which reason I have been obliged to March the regiment by Land to Connecticut River, from thence to March over to Crown point to Joyn the main body of the Troops under your Command" (Johnson 1921, 1: 606-607). As such, the paper money of one colony did not circulate freely as currency among the general populace of neighboring colonies.

Now all this evidence is anecdotal, and I am the first to put little definitive weight on anecdotal evidence, though there is a fair amount here. On the other hand, Michener and Wright live and die by anecdotal evidence. So by their own methodological standards the evidence here utterly demolishes their position and strongly supports Grubb's quantitative estimates of the relative composition of the money supply in the middle colonies (Grubb 2004, 340-341).

RHETORICAL GAMES (II)—THE "APPENDIX" GAME

Michener and Wright (2006c, 253-271) relegate the bulk of their rejoinder to an appendix (18 out of 20 pages of text). As justification for this behavior Michener and Wright (2006c, 252-253) say, "In the lengthy appendix here, we address the remainder of Grubb's reply. We relegate the details to an appendix because we believe…the tone of Grubb's reply is the best evidence of the underlying weakness of his propositions." Again this is an example of their preeminent rhetorical trick—preemptively accusing your opponent falsely of what you yourself are doing to insulate yourself from criticism of doing exactly that. If the reader goes back and does a head-to-head comparison on "tone" between Michener and Wright's attacks on Grubb and then Grubb's replies, beginning with Michener and Wright's first paper attacking Grubb circulated on EH.NET called "Grubbing Against the Dollar," it is clear who wins the unscholarly tone competition.

In truth, their "Appendix Game" is really just a rhetorical trick to cover up the poverty of the rest of their rejoinder where they do little to address Grubb's replies. They just repeat what they have published before without meaningful new analysis or serious engagement with Grubb's arguments and evidence (the repetition ad nauseam rhetorical trick).[14] Their opening accusation that Grubb is evasive is made to cover up the fact that their own appendix is just one big evasion.

On the issue of legal tender laws and quit rents (Michener and Wright 2006c, 253, 257-259), the assessments of Benjamin Franklin, the Pennsylvania Assembly, and the British Board of Trade all show that Michener and Wright are dead wrong (Labaree, Willcox, and Oberg 1959-1998, 6: 516-531, 9:131-173; 14: 34-39, 77-87).

On the issue of the amount of specie present at mid-century (Michener and Wright 2006c, 259-260), Michener and Wright persist in confusing specie passing through as a result of the multi-lateral balance of trade with specie retained for use by the general populace as a media of exchange for their internal commerce within the colony.

Michener and Wright (2006a, 7-8; 2006c, 253) persist in their bait and switch tactic of maintaining that evidence from a world where there is no physical representation of a monetary unit of account must have the exact same interpretation as evidence from a world where there is a physical representation of the monetary unit of account, namely pre- versus post-1723 for Pennsylvania (see also footnotes 4 and 6 above).

On the circulation of Pennsylvania pounds in Maryland, Michener and Wright (2006c, 261-262) persist in relying on a few quotations from the merchants Callister and Fitzhugh that they found in secondary sources—trying to deduce what was going on from this thin offering. They have not gone to the archives and read these sources in their entirety. They have no idea what the complete account books really look like or what the entire correspondence really says (Grubb 2006a, 63-64).

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[14] This is also part of their "burden-of-proof" rhetorical game. They assert that all the burden of proof falls on Grubb and none on them. Then they toss out endless ersatz economic ideas and erroneous unparsed anecdotal quotes, each of which takes up little space. Then they expect their opponent to disprove every single one. And if their opponent does not, then their opponent's position must be completely rejected. But serious scholarly analysis takes far more space (as well as research time and effort) than their cavalierly offered objections. Witness their four sentence presentation of the Tilghman quote (Michener and Wright 2006c, 262), and the amount of space and scholarly research needed above to debunk it, and debunk it so easily and definitively that any serious scholar would not have used or presented it as Michener and Wright did in the first place. They set up this rhetorical game so that no one can ever win a debate with them. Now if we reject their burden-of-proof game, and level the playing field, then Grubb has now shown so many examples where their objections are not only erroneous but fallacious that it may serve as a blanket rejection of all their objections, at least until they take on the burden of proof themselves of actually doing serious scholarly research on these issues. See also Michener and Wright (2005); Grubb (2005, 2006a, 48).

Michener and Wright (2006c, 266, 268) persist in repeating their estimate of monetary composition based on probate records. I challenge any reader to figure out how they got their numbers. Once you do and see their machinations, you will know.

Michener and Wright (2006c, 267) persist in making excuses for their misuse of, and then persist in misusing, Mazzei (Marchione 1983, 1:325-326). All I can say is go read Mazzei (Marchione 1983) and then read how Michener (1988) and Michener and Wright (2006a, 2006c) use and characterize that material. Then you will know.

Finally, this is Michener and Wright's third publication (2005, 2006a, 2006c, 254-255) attacking a yet-to-be-published paper of mine (Grubb 2006b). I would hazard to say that this behavior is unprecedented in the scholarly journals. When the reader finally has that paper available to read they will be surprised by what is presented there and by Michener and Wright's less-than-forthright characterization of it.

CONCLUSION

This debate is about more than the nature of money in colonial America. It is about the nature of scholarly discourse (Grubb 2001). Is scientific progress in economics fostered by debate over alternative models and their empirical testing in an open forum, or is scientific progress a myth and the goal is to monopolize society with your truth? Or put another way, there are two types of Chicago economists—those who believe in the marketplace of ideas and those who believe in forestalling others from the market and engrossing it for themselves. Which is to prevail, and what are the welfare consequences?

I see competition in the marketplace of ideas as the most important engine of scientific progress and the principal means to ensure that scholarship has some semblance of integrity. The latter position—often frequented by dictators, ideologues, and religious zealots—tempts their adherents into unbounded behaviors too easily justified and excused in their minds because they know that they possess the truth.

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