Preliminaries 00	Two Theorems ⊙	An Example 000	A (Dis)Analogy & A Proposal o					
Advice-Giving and Scoring-Rule-Based								
	Argument	s for Probabili	sm					
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Buchak & Fitels	on Advi	ce-Giving & Scoring Rule Argu	ments 1					
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Preliminaries 00	Two Theorems o	An Example ●○○	A (Dis)Analogy & A Proposal o				
	• One might use a scoring rule theorem (<i>via</i> , say, Theorem 2) to try to generate "specific advice" for an incoherent <i>S</i> . • Suppose <i>S</i> (who has a language <i>L</i> , and who adopts some "good" scoring rule <i>s</i>) has a non-probabilistic <i>b</i> . • Then, by Theorem 2, there will be a partition <i>P</i> of <i>L</i> on which <i>b</i> is incoherent (<i>i.e.</i> , on which <i>b</i> does not sum to one). • So, by your favorite partition-based SRT, there will exist some <i>b</i> *, which (a) is coherent on <i>P</i> , and (b) <i>s</i> -dominates <i>b</i> on <i>P</i> . Conversely, no such <i>b</i> * will be dominated in this way. • At this point, you might be tempted to conclude that <i>S</i> has reason to adopt <i>some</i> such <i>b</i> * on <i>partition P</i> . • The following example suggests that this may be hasty. • Consider an agent <i>S</i> with a 2-atomic-sentence (<i>X</i> , <i>Y</i>) <i>L</i> , and a d.o.b. function <i>b</i> on <i>L</i> , which satisfies these six constraints: $ \frac{b(X \& Y) = \frac{1}{10} b(X \& \sim Y) = \frac{2}{5} b(\sim X \& Y) = \frac{1}{5} \\ b(\sim X \& \sim Y) = \frac{3}{10} b(X) = \frac{1}{2} b(\sim X) = \frac{2}{5} \\ b(\sim X) = \frac{1}{5} \\ b(\sim X) = $						
	of \mathcal{L} , but b is incoherent	on <i>two other p</i> a	artitions of <i>L</i> .				
Buchak & Fite	elson Advice-	Giving & Scoring Rule Ar	guments 5				
Preliminaries 00	Two Theorems o	An Example ○●○	A (Dis)Analogy & A Proposal O				
Preliminaries 00	b is incoherent on (<i>exact</i> (P_1) { $X, \sim X$ } (P_2) { $X \& Y, X \& \sim Y, \sim X$ } So, scoring rule theorems (1) There exists a b_1^* which s-dominates b on P_1 (to (conversely) no such b (2) There exists a b_2^* which s-dominates b on P_2 (to (conversely) no such b)	An Example •••• hy—see next slid is will entail <i>both</i> ch (a) is coherent wrt <i>S</i> 's "good" so p_1^* will be domina ch (a) is coherent wrt <i>S</i> 's "good" so p_2^* will be domina p_2^* will be domina	A (Dis)Analogy & A Proposal o de) these 2 <i>P</i> 's of \mathcal{L} : h of the following: i on P_1 , and (b) coring rule <i>s</i>). And, ated in this way. i on P_2 , and (b) coring rule <i>s</i>). And, ated in this way.				
Preliminaries oo	<i>b</i> is incoherent on (<i>exact</i> (P_1) { $X, \sim X$ } (P_2) { $X \& Y, X \& \sim Y, \sim X$ } So, scoring rule theorems (1) There exists a b_1^* which <i>s</i> -dominates <i>b</i> on P_1 (<i>b</i> (conversely) no such <i>b</i> (2) There exists a b_2^* which <i>s</i> -dominates <i>b</i> on P_2 (<i>b</i> (conversely) no such <i>b</i> Thus, if we applied our states (above) to both (1) and (2) • <i>S</i> has reason to adopt • <i>S</i> has reason to adopt But: Theorem 3. Assuming (we will assume this from <i>both</i> adopt some b_1^* on <i>F</i>	An Example •••• hy—see next slid is will entail <i>both</i> ch (a) is coherent wrt <i>S</i> 's "good" so p_1^* will be domina ch (a) is coherent wrt <i>S</i> 's "good" so p_2^* will be domina pecific-advice-g), then we woul some b_1^* on P_1 . some b_2^* on P_2 . ng that <i>S</i> adopt n now on), it is p_1	A (Dis)Analogy & A Proposal o de) these 2 <i>P</i> 's of <i>L</i> : <i>h</i> of the following: a on P_1 , and (b) coring rule <i>s</i>). And, ated in this way. a on P_2 , and (b) coring rule <i>s</i>). And, ated in this way. a on <i>P</i> ₂ , and (b) coring rule <i>s</i>). And, ated in this way. enerating argument d conclude <i>both</i> : a s the Brier score <i>impossible</i> for <i>S</i> to a me b_2^* on P_2 .				
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00	o lineorems		An Ex ○○●	ample		A (Dis)Analogy & A Proposal 0			
•	A $\stackrel{\text{\tiny def}}{=}$ the set of <i>all</i> (1	6) prop	ositior	ns of \mathcal{L} .	Finest	- <i>arained</i> look:			
	p	$b_{\mathbb{A}}(p)$	$b'_{\mathbb{A}}(p)$	$b_2^{\star}(p)$	$b_1^{\star}(p)$	$b^{\dagger}_{\mathbb{A}}(p)$			
	~X & ~Y	3/10	3/10		1 .	23/80			
	X & ~Y	2/5	2/5	13/30		33/80			
	X & Y	1/10	1/10	2/15		9/80			
	~X & Y	1/5	1/5			3/16			
	$\sim Y$	7/10	7/10			7/10			
	$\frac{(\sim X \& \sim Y) \lor (X \& Y)}{\sim X}$	2/5	2/5 1/2	13/30	9/20	2/5			
	$\frac{X}{X}$	1/2	1/2	13/30	$\frac{3}{20}$ 11/20	21/40			
	$(X \& \sim Y) \lor (\sim X \& Y)$	3/5	3/5			3/5			
	Y	3/10	3/10			3/10			
	$X \lor \sim Y$	4/5	4/5			13/16			
	$\sim X \lor \sim Y$	9/10	9/10			71/80			
	$\frac{\sim X \lor Y}{\bigvee V}$	$\frac{3}{5}$	$\frac{3}{5}$			$\frac{47/80}{57/80}$			
	$\frac{X \lor Y}{X \lor \sim X}$	1	1/10	1	1	57/80			
	$\frac{X & \sim X}{X & \sim X}$	0	0	0	0	0			
•	h_{\wedge} is <i>the</i> completion	of b to	∆ that i	s incohe	erent or	$P_1 P_2$			
	$b_{\mathbb{A}}$ is the completion $b_{\mathbb{A}}$ (a Dr on \mathbb{A}) scores "cl	or v to k	but d		Driar day	$minata h_{1}$ (op Λ)			
	$D_{\mathbb{A}}$ (a PI OII \mathbb{A}) seems ci		$\gamma_{\mathbb{A}}$, but u		brier-uor	$\frac{1}{1} \frac{1}{1} \frac{1}$			
•	b_i^+ are Euclidean-closes	st Pr's to	\mathcal{D} (on P	T_i) that B	rier-aon	ninate \mathcal{D} (on P_i).			
٥	b_{A}^{T} is the <i>Euclidean-close</i>	<i>est</i> Pr to	$b_{\mathbb{A}}$ (on A	\land) that B	rier-dom	<i>inates</i> $b_{\mathbb{A}}$ (on \mathbb{A}).			
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Preliminaries	Two Theorems		An Fy	ample		A (Dis)Analogy & A Proposal			
00	0		000	ampre		•			
	Consider on egent (Curith	$(\boldsymbol{\beta}_{1})$ in	a (glab)	al) prof				
•	Consider all agent 3	(with	$p_{\mathbb{A}}$) III	a (giuu	al) prei	ace case.			
	• Does S have reason to adont some R' that's consistent on A^2								
• Does S have reason to adopt some $\beta_{\mathbb{A}}^{\star}$ from a <i>snecific family</i>									
	 Does <i>S</i> have reas Does <i>S</i> have reas 	son to a son to a	dopt <i>so</i> adopt so	me $\beta'_{\mathbb{A}}$ the second sec	hat's co from a	nsistent on A? <i>specific family</i>			
	 Does <i>S</i> have reas Does <i>S</i> have reas of β's that are loc 	son to a son to a ogically	dopt <i>so</i> adopt so consist	me $\beta'_{\mathbb{A}}$ the function $\beta_{\mathbb{A}}^{\star}$ is the second	hat's co from a &?	nsistent on A? <i>specific family</i>			
	 Does S have reas Does S have reas of β's that are log Perhaps S has some 	son to a son to a ogically e reason	dopt <i>so</i> adopt so consist n to ad	me $\beta'_{\mathbb{A}}$ the function of $\beta_{\mathbb{A}}^{\star}$ is the second seco	hat's co from a &? ne cons	nsistent on \mathbb{A} ? specific family sistent $\beta'_{\mathbb{A}}$,			
•	 Does S have reas Does S have reas of β's that are lo Perhaps S has some since that's the only 	son to a son to a ogically e reason y way f	dopt <i>so</i> adopt so consist n to ad or S to	me $\beta'_{\mathbb{A}}$ the second sec	hat's co from a &? ne cons being s	nsistent on \mathbb{A} ? specific family sistent $\beta'_{\mathbb{A}}$, such that she			
•	 Does <i>S</i> have reas Does <i>S</i> have reas of β's that are log Perhaps <i>S</i> has some since that's the only 	son to a son to a ogically e reason y way f	dopt <i>so</i> adopt so consist n to ad or <i>S</i> to	me $\beta'_{\mathbb{A}}$ the second sec	hat's co from a &? ne cons being s	nsistent on A? specific family sistent β'_A , uch that she			
•	 Does <i>S</i> have rease Does <i>S</i> have rease of β's that are logger by the second sec	son to a son to a ogically e reason y way f some o	dopt <i>so</i> adopt so consist n to ad or <i>S</i> to <i>f her b</i>	me $\beta'_{\mathbb{A}}$ the second sec	hat's co from a ₄? ne cons being s re false	nsistent on \mathbb{A} ? specific family sistent $\beta'_{\mathbb{A}}$, uch that she e ("bad" B).			
•	 Does <i>S</i> have rease Does <i>S</i> have rease of β's that are loced by the perhaps <i>S</i> has some since that's the only <i>knows a priori that</i> But, it <i>doesn't</i> seem 	son to a son to a ogically e reason y way f <i>some o</i> that <i>S</i>	dopt <i>so</i> adopt so consist n to ad or <i>S</i> to <i>f her b</i> need h	me $\beta'_{\mathbb{A}}$ the second sec	hat's co from a &? ne cons being s re false y reaso	nsistent on A? specific family sistent β'_A , uch that she e ("bad" B). n to adopt a			
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