

Notes from Hades

Last week was one of my stints up in San Jose, so Celeste and I took advantage of it and of the holiday weekend to spend a couple of days up in Napa. She drove up on Thursday, and we spend that evening with my aunt and uncle, then Friday morning we drove up to Napa and checked into our hotel. She brought our bicycles with her and the plan was to ride between the wineries. Well, we got a bit of a late start on Friday, and were only able to hit two wineries. We took the tours of Beringer Brothers and Robert Mondavi. Both were excellent, but the traffic along the main highway was so bad we didn't want to get the bicycles out.

Saturday was much better. We had planned on working on the Silverado Trail, a road that parallels the main highway through the valley. We drove up to Clos du Val, the southernmost winery of a group, visited it, then got the bikes out and started riding. We only covered about eight and a half miles, but it was a very enjoyable eight and a half miles.

This issue sees the end of Fenris. Congratulations to Ward on his victory. So that means we will be starting Wolfhound next issue. If you have a preference for a particular Seafarer's scenario, please let me know, and I will see what I can do.

This issue's deadline to **Tuesday, July 3 at 5:00 p.m. Pacific Time.** Please note that games that are run by guest GMs or in a subzine could be on a different schedule, so look at the games themselves. **Please do not call or fax orders after 10:00 p.m. Pacific time.** My wife and I tend to retire early.

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Game Openings

Pavlov. Dune. We will use the three variant powers (Bene Tleilaxu, Ixians, and Lansraad). Have Steve Koehler, Bill Scharf, Ward Narhi, and Kevin Wilson. Will take up to 2 more.

Dog Show. Age of Renaissance. Have Bob Robles, Paul Bolduc, Caleb Cousins, Ward Narhi, and Dennis Cain, will take 1 more. **Starts this issue!**

Wolfhound. Seafarers of Catan. This is a game that expands on the original Settlers of Catan to include sea travel, but is very similar to the original. Exact scenario to be determined. This will start after Fenris has ended. Have Tom Howell, Brendan Whyte, Phil Reynolds, Joe Carl, Ward Narhi, and Kevin Wilson. This game is closed. **Starts next issue!**

Wild Dog. Machiavelli. This game will start when the next game ends after Off the Leash begins. Scenario and specific rules to be determined at game start by player vote, as usual. Have Phil Reynolds, Joe Carl, Bob Robles, Brendan Whyte, Ward Narhi, Kevin Wilson, and John Biehl, will take up to 1 more.

Guard Dog. Kremlin. This game will start when Dog Tired ends. Have Any Lewis, Pasquale Giovine, Mike Scott, Ward Narhi, and Bob Robles, will take 1 more.

Wish List

Liftoff! Have Joe Carl, need 4 more.

Silverton. This will use the Mayfair rules and map and will start after Doggin' It has ended. Have Joe Carl, need 5 more.

History of the World. This will start after Dog Days has ended. Need 6.

In general, game ownership is recommended, but not required.

Note that a subscription to S.O.B. is not required to play in a game run by flier, but that a game fee will be charged to non-subbers.

S.O.B. is a zine of unusual postal games, and anything else I feel like including. Your publisher is:

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Howling at the Moon
The S.O.B. Letter Column

Bob Robles

Order time. Another book review. 'One World, Ready or Not. The manic logic of global capitalism' by William Greider. Mr. Greider, in my humble opinion, has a great ability to write about complex subjects in an easy to understand manner which does not detract from the complexity or subtlety of the subject. He unfortunately often takes a great number of pages to do so. His target this time is economic globalization. On one hand, he merely dusts off Karl Marx's observations on the evils of capitalism which, not surprisingly, have not changed much in the 150 odd years since Das Kapital was published.

He paints a broad picture of how connected the world has become with globalization and how we, in the developed world, ignore the developing world at our peril. He also illustrates the problems globalization has wrought on the developed world as well. On the other hand, he makes more realistic suggestions on what we can do, unlike Marx. Since economics is something on which everyone has an opinion, I would highly recommend this book if you want ammunition for whatever economic viewpoint you may hold. This is a good summer reading book to digest in small amounts over a long period of time; bad for bedtime reading!

Feral Dogs

Advanced Game, no Optional Rules, Black Press, Ultimate Victory, Gunboat
Summer 1466

Deadline/Fall 1466 7/3 Tuesday

The assault on Naples has begun as the Pope and France storm the boot. The government of Venice tries to flee as the last Venetian unit is besieged in the capital. Milan conducts military exercises on the border.

Expenditures

Naples spends 3 ducats to counterbribe A Naples

Orders

- France : A AVIGNON to Marseilles, A PROVENCE to Marseilles, F GENOA holds, F CORSICA to Gulf of Lions, F GULF OF LIONS to Marseilles, F Central Mediterranean to IONIAN SEA, F OTRANTO to Bari
- Milan : A AUSTRIA to Tyrolea, A MILAN to Tyrolea, A SLAVONIA to Croatia, A CARNIOLA to Croatia, A VERONA to Ferrara, A PADUA to Ferrara, A MANTUA to Bologna, A MODENA to Bologna
- Naples : A Naples supports F Bari to Aquila (cut, DESTROYED!), F BARI to Aquila, G NAPLES supports A Naples, G BARI converts to A
- Papacy : A SIENNA to FLORENCE, A BOSNIA holds, A ANCONA to Aquila, A Aquila to NAPLES, A CAPUA supports A Aquila to Naples, F SALERNO supports A Aquila to Naples, F VENICE besiege, F LOWER ADRIATIC holds (u)
- Venice : G VENICE holds

Notes

The France/Milan/Papacy draw fails with 2 no votes. It has been re-proposed. Please vote with your next set of orders. Remember, NVR = no, NMR = yes.

Press

France – Papacy/Milan: Despite all the opportunities for backstabbing, I have to admit we've held off temptation...and we've made a good team.

France – Naples: H'mm, you NMRed out the game game-years ago didn't you?

France – Pope: Headed to Bari...the sooner we take down Naples the better. I regret not taking him out earlier...but then we had Venice to deal with.

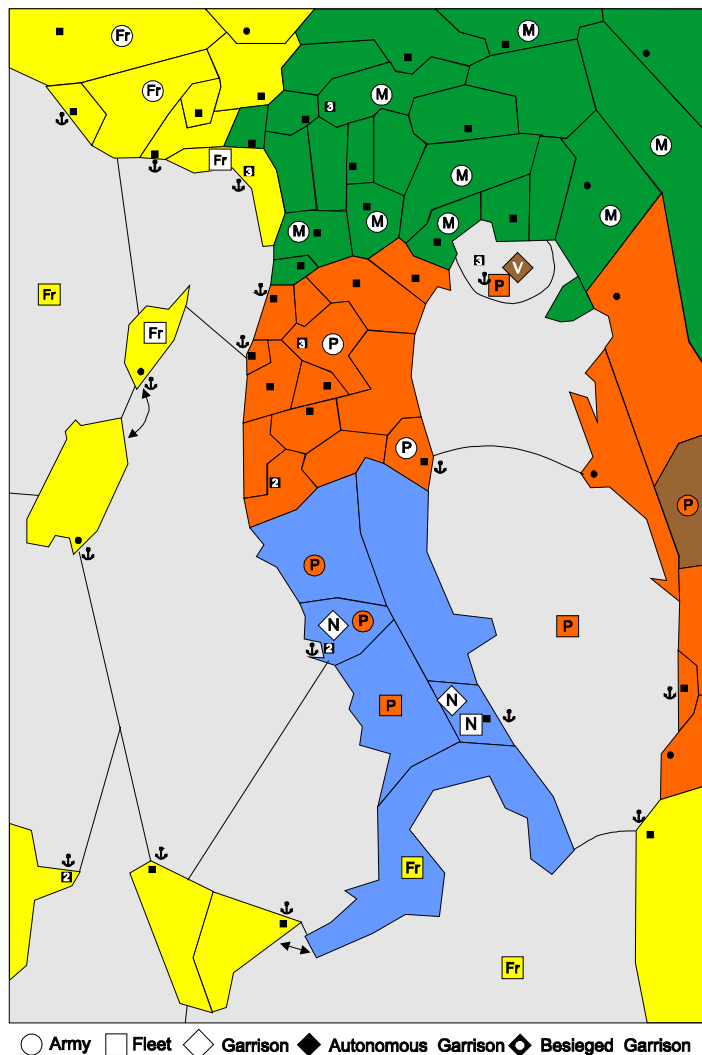
Naples – France: I hope for your assistance versus the perfidious Pope.

Pope – Milan: This is my only message to you. All others are fake. I think the border you suggest is a little uncomfortable for me. Please back off from Croatia or I'll think you are not really interested in a 3 way draw and trying to snooker me. I've disbanded on your border and given you lots of room. I haven't seen you do the same for me. It's time you start acting like you want the draw instead of hawking over me getting ready to pounce.

Pope – Milan: Can you hold off for another season before you advance on Fer or Cro? Like until after Naples actually falls?

Pope – France: I will support you in Bari until Naples is dead. If you have not entered Bari yet, I will support you there until you get there.

Venice – Milan: If you capture Croatia, and bribe the unit in Venice all you need is Dalmatia to collect the income from my country. That should get you an easy solo. You can bribe France's unit in Genoa and get that income as well.
"Feral Dogs"



Citizen Dog

Advanced Game, Plague, Famine, Special Military Units, and Conquest, White Press, Ultimate Victory
Summer 1462

Deadline for Fall 1462: 7/3 Tuesday

The Venetian government collapses just as Austria, Milan, and Naples all cooperate to attack him.

Spring 1462 Retreats

Venice A Bologna retreats OTB (NRR)

Summer 1462 Plague

Poor Year –Column only: Croatia, Bologna (Milan A destroyed), Austria, Avignon, Venice

Expenditures

Naples spends 21 ducats to buy Venice F Gulf of Naples.

Orders

- AUSTRIA (Robles): A SWISS to TYROLEA, A Tyrolea to CARINTHIA, A Carinthia to CARNIOLA, A (EM) Slavonia to CROATIA
- MILAN (Giovine): A PROVENCE holds, A MILAN holds, A Bergamo to VERONA, A (EM) Mantua to FERRARA, A Lucca to BOLOGNA, F LIGURIAN SEA supports Neapolitan F Sienna to Tyrrhenian Sea

NAPLES (Narhi): A FLORENCE holds, A Rome to PERUGIA, F Sienna to TYRRHENIAN SEA, F Tyrrhenian Sea to WESTERN MEDITERRANEAN, F MESSINA supports F Otranto to Ionian Sea, F Otranto to IONIAN SEA, F (EM) GULF OF NAPLES supports F Otranto to Ionian Sea

VENICE (Grib?): NMR! A PADUA holds, A URBINO holds, A ANCONA holds, F UPPER ADRIATIC holds, F LOWER ADRIATIC holds, F Ionian Sea holds (DISLOADED, retreat Messina, Durazzo, OTB), F CENTRAL MEDITERRANEAN holds

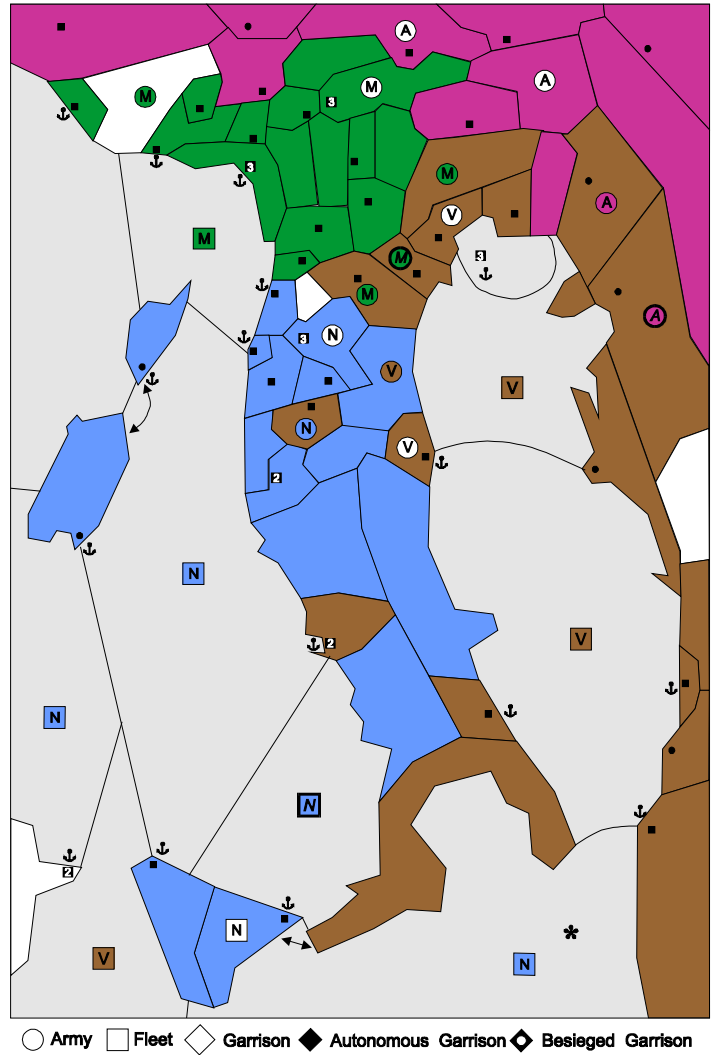
Notes

Will Bill Scharf please submit standby orders for Venice.

Press

- Austria – Naples:** What's wrong with covering?
- Austria – Venice:** All good things must come to an end...
- Naples – Austria:** You should be able to pick up 2-3 Venetian cities easily.
- Naples – Milan:** Hold the line for the rest of the year and we can push Venice back. Remember cities don't change ownership until the Fall so make sure we gain Venetian cities in the fall.

Citizen Dog



New Tricks
End of Game Statements

Game Summary

	1253	'54	'55	'56	'57	'58	'59	'60
Aragon:	3	4	5	8	7	4	0	0
Avignon:	4	4	0	0	0	0	0	0
Florence:	3	4	5	6	9	13	17	13
Genoa:	3	3	3	2	0	0	0	0
Milan:	3	4	5	4	4	0	0	0
Papacy:	3	5	4	4	3	3	3	4
Venice:	3	6	9	12	15	19	21	24

The Players

- AUSTRIA: Brendan Whyte (resigned, Spring, 1256), Paul Bolduc (out, 1258) 4th place
- AVIGNON: Jason Wilke (dropped, Spring 1254), Steve Koehler (out 1254) 4th place
- FLORENCE: Bob Robles 2nd place
- GENOA: Mike Scott (out, 1256) 4th place
- MILAN: Sigourney Street (out, 1257) 4th place
- PAPACY: Ward Narhi 3rd place
- VENICE: Phil Reynolds 1st PLACE

Statements

Bob Robles (Florence): Congratulations to Phil for a well planned victory. I kept looking over my shoulder at Venice but was a step late at the end since I was concentrating on stabbing the Pope (with whom I had a good relationship for most of the game.) Stupid me! I knew it was coming, I just didn't plan well. I was glad Ward and I ended up trusting each other, at least until the end since Florence and the Pope either work together or get picked off separately.

Ward Narhi (Papacy): I started this game pretty strong. I had an ally in Florence and no real enemies and was determined to take on Venice and was just about to do so when I NMRed for a turn. This slowed my momentum down and from that point on I could only play defense. Aragon came after me and no matter what I said, he was relentless, even to his own detriment as he forced me into the arms of Venice. I sent many messages to Aragon begging him to stop attacking me because Venice was expanding so much he was clearly going to win. Unfortunately, the hard headed Aragon refused to listen to reason. Aragon even agreed to stop attacking me a couple of times but always it was a ruse to try and stab me. Frankly, he is the person most responsible for Venice winning. Brendan, why did you keep attacking me when Venice was cleaning up? I would have worked with you! Finally, I told Aragon that I could not trust him

but if he pulled back from my borders I would throw in with him in a last ditch effort to stop Venice. Aragon never did pull back until it was far too late.

With the demise of Aragon, Florence and Venice wanted a draw. I saw an opportunity to try to get back into the game but ultimately, we waited too long to counter Venice and he won.

Good game. A tip of my cap to Phil for the win. He knew I was forced to be his puppet but treated me well regardless. But he also knew to make sure I never had a chance to damage him. Well done. Also, a nod to Robles for being such a good ally. You could have attacked me many times but stuck with our agreements. Future players should flock to an ally like this.

Phil Reynolds (Venice): WOW. UNBELIEVABLE. I never thought I would win this game until the last few turns, because I wasn't thinking about winning it, and this is because I assumed it would have to end in a two-way draw at best.

Hard to believe, perhaps, but I didn't consciously realize what the victory condition was or, eventually, how close I was to achieving it until I started in another Machiavelli game and came to have the revelation!

For many turns, then -- up until I made my advance on Florence -- I was voting for the Florence-Venice draw and reproposing it! But once I noticed that I only needed to control a few more cities, I thought, screw this draw stuff! It's funny that had only Bob or Ward -- whoever was the constant dissenter -- voted for the draw, then I would not have won. So, really, I have only this person to thank for my winning!

Venice is a great power to play in this game. The only way Venice does not succeed is if at least two or three other powers make an anti-Venice alliance their priority. It didn't happen here, so after the first game year, I had my choice of whom to attack. Sigourney, poor trusting soul that he is, had left his flank so woefully undermanned that I could hardly pass up on stabbing him -- and stabbing him hard!

As for the other powers, Bob corresponded the most, and not being my neighbor made Florence a good choice for an ally, since we could work together vs. Milan and the Papacy. Ward wrote at times, generally briefly. Aragon didn't write hardly at all. So, I enlisted Ward's help against Brendan and Paul, keeping Ward alive enough to help me gain control of the Adriatic, but seeing that the Papacy didn't grow significantly.

Once Aragon was on the run, the question became whether or not to sack the Papacy with Florence's help. I thought this was inevitable while shooting for the two-way draw, but once I realized I had to go for the victory, I knew I would succeed only by hitting Florence with everything I could muster. For the last few turns, it pretty much was everyone for himself, but the strength and position of my forces carried the day.

This was a great game for me and one I will always remember, if not for the victory, then for the lesson that one must always be cognizant of the victory condition, even if one feels he cannot win. Thanks much, Chris!

Off the Leash

Advanced Game, Plague, Famine, Special Military Units, Conquest, Moneylenders, Gray Press, Ultimate Victory, Gunboat
Deadline for Spring 1454: 7/3 Tuesday

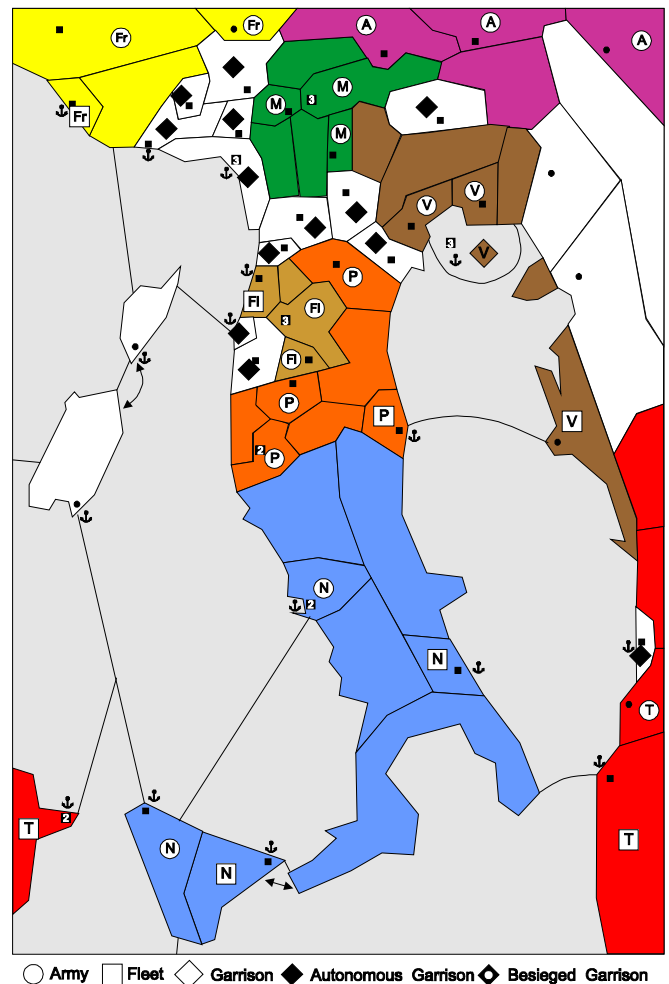
The Positions

AUSTRIA	□:	A Tyrolea, A Austria, A Hungary, 1 ducat
FLORENCE	□:	A Florence, A Arezzo, F Pisa, 6 ducats
FRANCE	□:	A Swiss, A Avignon, F Marseille, 2 ducats
MILAN	□:	A Cremona, A Pavia, A Milan, 6 ducats
NAPLES	□:	A Bari, A Messina, F Naples, F Palermo, 4 ducats
PAPACY	□:	A Bologna, A Perugia, A Rome, F Ancona, 4 ducats
TURKS	□:	A Albania, F Durazzo, F Tunis, 4 ducats
VENICE	□:	A Padua, A Verona, G Venice, F Dalmatia, 9 ducats
Autonomous Garrisons: Savoy, Saluzzo, Montferrat, Genoa, Lucca, Mantua, Trent, Piombino, Sienna, Ragusa, Ferrara, Modena		

Notes

Here's a recap of the rules we'll be using. First, all advanced rules are in use, including assassination. Each player starts with one assassination chit for each other player. In addition, the following optional rules are in use: Natural Disasters, Special Military Units, Moneylenders, and Conquest. Press will be Gray. We are playing this one to Ultimate Victory Conditions: 23 cities. The house rules are available on the website. If you have any other questions, feel free to ask. And so, without further ado, I'll let you get on with your dagger work.

Off the Leash



Doggin' It

Turn 20, Phases IV-VII, Turn 21, Phases I-III

Turn 21, Phases IV-VII, Turn 22, Phases I-III due: 7/3 Tuesday

Turn 20

Construction and Operation

Red (Scharf) operates claims #52 (\$100, 3 coal), #53 (\$100, 3 coal), #50 (\$100, 2 coal), and #31 (\$250, 3 lumber).

Green (Narhi) operates claim #33 (\$100, 2 lumber). Receives \$750 in passenger revenue.

Brown (Carl) operates claims #24 (\$200, 1 silver) and #63 (\$150, 3 coal), delivers 8 coal from Alamo to Pueblo for \$3200.

Gray (Cain) no activity.

Gold (Bolduc) operates claims #12 (\$250, ½ silver), #22 (\$200, ½ silver), #39 (\$250, 3 lumber), #13 (\$200, 2 silver), #34 (\$200, 2 lumber), #35 (\$200, 1 lumber), #44 (\$100, 4 coal), and #47 (\$100, 3 coal). Delivers 3 silver from #13 to Salt Lake City for \$3000 and 8 lumber from Lumberton to Salt Lake City for \$12000. Collects \$100 in passenger revenues.

Blue (Martin) passes on claim #3, operates claims #66 (\$200, 3 coal) and #68 (\$200, 3 coal). Delivers 3 each coal from Trinidad and Raton to Santa Fe for \$3600.

Commodity Prices

Gold: \$6500	Lumber (S.L.C.): \$1200	Coal (S.L.C.): \$500
Silver (Denver): \$2400	Lumber (Pueblo): \$1000	Coal (Pueblo): \$400
Silver (S.L.C.): \$1000	Lumber (Santa Fe): \$800	Coal (Santa Fe): \$600
Lumber (Denver): \$1000	Coal (Denver): \$700	

Turn 21

Move Prospectors and Surveyors

Red (Scharf) prospects #3, surveys Orestod to Hot Sulphur Springs.

Green (Narhi) prospects #14, surveys Bridgeland to Heber City

Brown (Carl) prospects #65, no surveying.

Gray (Cain) no prospecting or surveying

Gold (Bolduc) surveys Green River to Sunnyside, no prospecting

Blue (Martin) no prospecting or surveying

Dispute Resolution

No disputes. Blue has first right of refusal for claim #3. Red pays \$1000, Green pays \$2100, Brown pays \$300, Gold pays \$800.

Press

Red – Brown: If allowed in the game rules, I'll deliver your silver for \$1 a unit?

Cerberus – Red and Brown: It is allowed, although the currency supplied with the game only goes down to \$50.

Gray – Brown: Would you like some cheese to go with your wine?

Notes

The Claims Deck has been exhausted. No more prospecting the deck, and the remaining 5 claims are all there are.

The Players

Player	Color	Starting Location	Money	Personnel
Bill Scharf	Red	Denver	\$80,500	S+1, P
Ward Narhi	Green	Denver	\$49,750	S, P+1
Joe Carl	Brown	Pueblo	\$23,750	S+1, P
Dennis Cain	Gray	Salt Lake City	\$26,600	S, P+1
Paul Bolduc	Gold	Salt Lake City	\$49,850	S+1, P
Brad Martin	Blue	Santa Fe	\$82,050	S, P+1

Owned Claims

#	City	Owner	Goods	Type	Operation
18	Leadville	Red	1	Silver	Depleted
52	Craig	Red	7	Coal	\$100
53	Craig	Red	3	Coal	\$100
50	Elk Spings	Red	5	Coal	\$100
31	Walden	Red	3	Lumber	\$250
3	Dillon	Red	N	Gold	\$200
58	Crested Butte	Green	10	Coal	Depleted
29	Lake City	Green	2	Silver	\$150
28	Lake City	Green	N	Silver	\$200
57	Crested Butte	Green	N	Coal	\$200
33	Boulder	Green	2	Lumber	\$100
14	Aspen	Green	N	Silver	\$200
42	Vallecitos	Brown	1	Lumber	Depleted
64	Walsenburg	Brown	0	Coal	\$250
24	Ouray	Brown	1	Silver	\$200
60	Durango	Brown	1	Coal	\$100
21	Westcliffe	Brown	1	Silver	Depleted
63	Alamo	Brown	5	Coal	\$150
36	Pagosa Springs	Brown	N	Lumber	\$100
65	Walsenburg	Brown	N	Coal	\$150
54	Bowie	Gray	0	Coal	\$200
55	Bowie	Gray	6	Coal	\$200
51	Rangely	Gray	5	Coal	\$100
46	Price	Gray	N	Coal	\$200
44	Scofield	Gold	4	Coal	\$100
39	Lumberton	Gold	2	Lumber	\$250
12	Eureka	Gold	½	Silver	\$250
34	Dolores	Gold	2	Lumber	\$200
47	Sunnyside	Gold	13	Coal	\$100
35	Dolores	Gold	3	Lumber	\$200
22	Telluride	Gold	2½	Silver	\$200
13	Eureka	Gold	1	Silver	\$200
66	Trinidad	Blue	0	Coal	\$200
68	Raton	Blue	0	Coal	\$200

Owned Passenger Lines

#	Type	Route	Payoff	Owner	Notes
7	B	Denver – Leadville	\$600	Red	
9	B	Denver – Grand Jct.	\$1350	Red	Discard when 15 is taken. Good for \$1350 toward card 14 or 15
10	B	Pueblo – Grand Jct.	\$750	Red	Discard when 17 is taken. Good for \$750 toward card 17 or 18
2	A	Denver – Colorado Springs	\$250	Green	
3	A	Denver – Pueblo	\$400	Green	
8	B	Denver – Aspen	\$650	Green	
1	A	Denver – Boulder	\$100	Green	

#	Type	Route	Payoff	Owner	Notes
12	B	SLC – Grand Jct.	\$1250	Gray	Discard when 15 is taken. Good for \$1250 toward card 14 or 15
11	B	Salt Lake City – Grand Jct.	\$700	Gray	Discard when 17 is taken. Good for \$700 toward card 17 or 18
5	A	SLC – Provo	\$100	Gold	
6	A	Pueblo – Santa Fe	\$600	Blue	
13	C	Denver – Santa Fe	\$2100	Blue	

Available Claims

#	City	Type	Claim	Operation
43	Coalville	Coal	\$300	\$150

#	City	Type	Claim	Operation
61	Canon City	Coal	\$500	\$150
32	Hot Sulphur Springs	Lumber	\$300	\$150
62	Canon City	Coal	\$200	\$100
59	Durango	Coal	\$400	\$100

Available Passenger Lines

#	Type	Route	Payoff	Cost	Notes
17	C	SLC – Pueblo	\$3000	D x \$75	
15	C	Denver – SLC	\$4000	D x \$100	
16	C	Santa Fe – Leadville	\$800	D x \$50	
14	C	Denver – Salt Lake City	\$2700	D x \$75	May not be taken by player who has card 18
18	C	SLC – Colorado Springs	\$3000	D x \$75	May not be taken by player who has card 14

Rover

End of Game Statements

Bill Scharf (Penny Pines) Having played this game multiple times the winning strategy seems to be the two-stage rocket with peripherals...and building up experience levels of your astronauts. Toward game's middle...and the endgame...my income was so large that it would have been embarrassing had I lost.

You've got to launch missions ASAP to build up your income, going for the more expensive programs (like from one-stage rocket directly to three-stage

rockets) doesn't work because it delays your early launches and hence your early income. You can win that way...but it's not very likely. I've never seen anyone build the Mega stage rocket or the mini-shuttle and win.

I got good die rolls...some early payouts...and the ball started rolling... good game everybody...we'll have to try this one again!

Paul Bolduc (Moonshooter Unlimited) It's over?!? Guess I should've paid more attention to what the others were doing.

Dog Days

Epoch V Vikings, Holy Roman Empire, and Chola

Deadline for Epoch V Sung Dynasty, Seljuk Turks, and Mongols: 7/3 Tuesday

Peoples Who Need Peoples (Cousins) Plays Kingdom in the Gold Coast (army, city and fort *Gold Coast*). Plays Crusade. Attacks *Palestine* (vs. Arabs; C: 1+1, 1+1; A: 4, 3; loses), *Palestine* (vs. Arabs; C: 4+1, 5+1; A: 1, 4; wins, city and fort created), *Arabian Peninsula* (vs. Arabs; C: 6+1, 6+1; A: 6; wins, Capital reduced to city). VIKINGS: Army *Scandinavia* (Goth army eliminated), fleet *Atlantic Ocean*, army *Deep South*, *Northern Gaul* (vs. Franks; V: 3, 2; F: 5, 3; loses), *Northern Gaul* (vs. Franks; V: 5, 5; F: 6, 1; loses), *Northern Gaul* (vs. Franks; V: 5, 1; F: 5, 4; V: 4, 3; F: 5, 2; loses), *Northern Gaul* (vs. Franks; V: 5, 4; F: 5, 1; V: 5, 5; F: 3, 1; wins, Capital reduced to city), *Lower Rhine* (vs. Goths; V: 3, 1; G: 5; loses), *Lower Rhine* (vs. Goths; V: 6, 5; G: 5; wins). Points: Dominance in Northern Europe (4), Presence in North Africa (2), Middle East (3), India (3), Southern Europe (3), Southeast Asia (2), Eurasia (1), and North America (1), 1 Capital (2), 4 cities (4), 3 Seas (3), and 2 Monuments (2) for 30 points.

The Triffids (Geggus) plays Fujiwara. Army and Capital *Honshu*, fleet *Sea of Japan*, army *Great Plain of China* (vs. T'ang Dynasty; H: 6, 4; T: 6, 4; H: 3, 3; T: 3, 3; H: 6, 3; T: 5, 2; wins). HOLY ROMAN EMPIRE: Army and Capital *Central Europe* (Frank army retreats to *Dalmatia*), army *Dalmatia* (vs. Franks; H: 4, 1; F: 2, 1; H: 4, 4; F: 5, 1; loses), *Dalmatia* (vs. Franks; H: 3, 2; F: 5, 2;

loses), *Dalmatia* (vs. Franks; H: 4, 2; F: 5, 3; loses), *Dalmatia* (vs. Franks; H: 5, 3; F: 4, 4; wins), *Northern Apennines* (vs. Byzantines; H: 6, 5; B: 5; wins), *Southern Apennines* (vs. Franks; H: 3, 3; F: 4; loses), *Southern Apennines* (vs. Franks; H: 4, 3; F: 3; wins), *Northern Gaul* (vs. Vikings; H: 4, 1; V: 6, 5; loses), *Northern Gaul* (vs. Vikings; plays Treachery, automatic victory, city eliminated). Points: Presence in Middle East (3), China (3), Southern Europe (3), Northern Europe (2), and Eurasia (1), 2 Capitals (4), 1 Sea (1), and 4 Monuments (4) for 21 points.

Kibbles and Bits (Narhi) CHOLA: Army and Capital *Eastern Ghats* (two Vedic armies destroyed), fleet *Bay of Bengal* (vs. Amorphous, Cadaverous, and Nebulous; KB: 6, 2; ACN: 6; KB: 6, 4; ACN: 6; KB: 4, 3; ACN: 5; loses), *Bay of Bengal* (vs. Amorphous, Cadaverous, and Nebulous; KB: 6, 3; ACN: 3; wins), army *Eastern Deccan* (vs. Guptas; C: 4, 1; G: 3; wins, Capital reduced to city), *Western Deccan* (vs. Indus Valley; C: 6, 5; I: 4; wins), *Ganges Delta* (vs. Guptas; C: 6, 4; G: 2; wins), *Upper Indus* (vs. Arabs; C: 6, 2; A: 4; wins), *Western Ghats* (vs. Indus Valley; C: 6, 4; I: 1; wins). Builds Monument *Eastern Ghats*. Points: Dominance in China (6) and India (6), Presence in Middle East (3), Southern Europe (3), and Southeast Asia (2), 2 Capitals (4), 2 cities (2), 2 Seas (2), and 4 Monuments (4) for 32 points.

Players

Player Name	Player Faction Name	Empire Strength Points	Victory Points
Phil Reynolds	Amorphous, Cadaverous, and Nebulous (Black)	27	73
Andy Lewis	Gaming Through the Ages (Purple)	41	106
Kevin Wilson	Royal Manticoran Historical Society (Blue)	43	66
Caleb Cousins	Peoples who Need Peoples (Red)	47	106
Chris Geggus	The Triffids (Green)	49	99
Ward Narhi	Kibbles and Bits (Orange)	54	105

Final Positions

SUMERIANS: Capital and 3 armies in *Lower Tigris*.

Amorphous, Cadaverous, and Nebulous. REBELLION: Army *Ceylon*.

CELTS: Three armies, fort, and Monument *Albion*, army and fort *Ireland*, army *Central Massif*. SOUTHERN IBERIAN KINGDOM: Army, fort, and city *Southern Iberia*. GUPTAS: Two armies *Irrawaddy*, and army *Sumatra*.

The Triffids. Fleet *Sea of Japan*. MINOANS: Army and fort *Western Anatolia*.

SUB-SAHARAN MIGRANTS: Armies *Congo Basin* and *South Africa*. HUNS: Armies *Eastern Anatolia* and *Caucuses*. FUJIWARA: Army and Capital *Honshu*, army and Monument *Great Plain of China*. HOLY ROMAN EMPIRE: Army, Capital, and Monument *Central Europe*, army and Monument *Southern Apennines* and *Northern Gaul*, armies *Dalmatia* and *Northern Apennines*.

Peoples Who Need Peoples. Fleets *Eastern Mediterranean*, *Black Sea*, *North Sea*, and *Atlantic Ocean*. PERSIA: Army *Turanian Plain*. HSUING-NU: Armies *Mongolia* and *North European Plain*. ANGLO-SAXONS: Armies *Baltic Seaboard* and *Western Gaul*. BYZANTINES: Army and Capital *Balkans*, armies *Shatts Plateau*, and *Libya*. GOLD COAST KINGDOM: Army, city, and fort *Gold Coast*. CRUSADERS: Army, city, and fort *Palestine*, army, city, and Monument *Arabian Peninsula*. VIKINGS: Armies *Scandinavia*, *Lower Rhine*, and *Deep South*.

Royal Manticoran Historical Society. Fleet *Red Sea*. SCOTTS: Army, city, and fort *Highlands*. ARABS: Army and Monument *Nubia*, *Levant*, *Upper Tigris*, *Zagros*, and *Persian Plateau*, armies *Nile Delta*, and *Hindu Kush*.

Kibbles and Bits Fleets *Bay of Bengal* and *South China Sea*. ROMANS: Two armies *Western Iberia*, armies *Pyrenees* and *Middle Tigris*. MALAYAN KINGDOM: Army, city, and fort *Malayan Peninsula*. T'ANG DYNASTY: Army, Capital and Monument *Yangtze Kian*, armies *Yellow River*, *Wei River*, *Szechwan*, *Chekiang*, *Si-Kyang*, and *East Indies*. CHOLA: Army, Capital, and Monument *Eastern Ghats*, army and Monument *Ganges Valley* and *Upper Indus*, army and city *Eastern Deccan*, armies *Western Deccan* and *Western Ghats*.

Gaming Through the Ages Fleet *Western Mediterranean*. NILE KINGDOM: Army, city, and fort *Upper Nile*. MAYANS: Two armies and a Capital *Central America*. MAURYANS: Armies *Lower Indus*, *Persian Salt Desert*, and *Mekong*. GOTHS: Army and Monument *Morea*, army and city *Crete*, two armies *Pindus*, army *Danubia*. FRANKS: Armies *Dnepr*, *Western Steppe*, *Eastern Steppe*, and *Tarim Basin*.

Event CardsEpoch V Empire**Ferris**

Turns 11.4 to 12.2

Deadline for End of Game Statements: 7/3 Tuesday

Turn 11

Chris Plays Soldier, moving the Robber to M10. **Kevin** Die roll = 5, Ward gains 3 wool and 2 wheat, **Bill** Die roll = 10, Chris gains 2 brick and Kevin Steals a brick from Ward. Die roll = 10, Chris gains 2 Steve gains 2 wool, Kevin gains 2 wheat, and Bill gains 2 ore. Trades 4 wool for 1 brick and 4 wool for brick and Kevin gains 2 ore. Trades 3 brick for 1 gains 4 wool. Plays Roadbuilding to build roads at 1 wheat. Builds a settlement at W12/L11/Wasteland, lumber and builds a settlement at W2/?P/Sea. During W3/Sea and W3/L8. Trades 4 ore for 1 brick and 4 and buys a card (Soldier). During the special build the special build phase, Paul builds a road at L9/H4. wheat for 1 lumber. phase, Ward upgrades settlement at L8/P11/?P to a Ward builds a roat at P5/Sea. city.

Turn 12











Paul Die roll = 11, Ward receives 2 lumber and 2 **Ward** Die roll = 12, Paul receives 1 wool, Steve settlement at P5/?P/Sea, thus gaining 10 victory wool, Kevin receives 2 wool and 2 ore, and Bill receives 2 wheat and 2 wool, and Bill receives 1 points and the victory. Congratulations to Ward. receives 1 lumber. wheat. Trades 3 wool for 1 brick and builds a

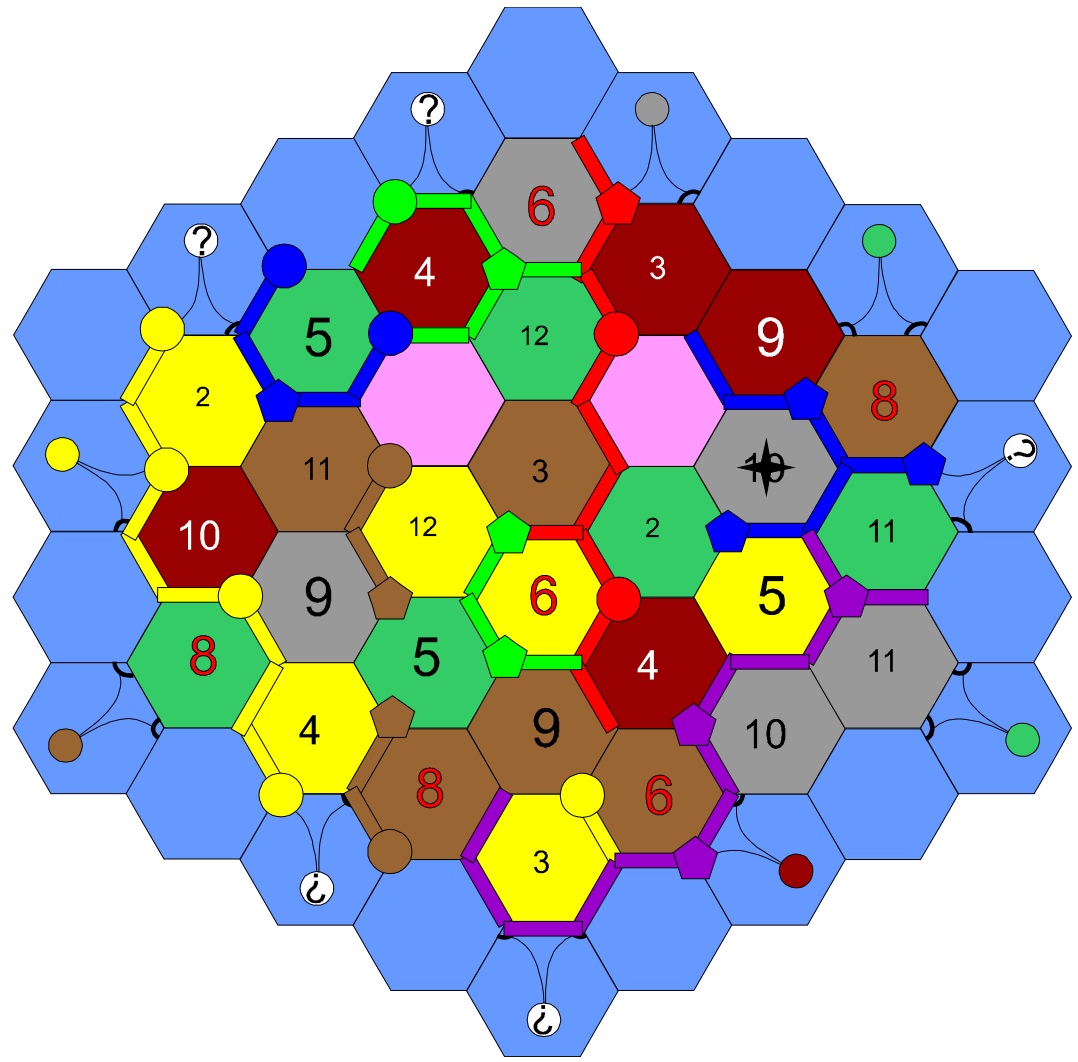
The Players

Player	Color	Wheat	Sheep	Brick	Lumber	Ore	Development Cards	VP
Paul Bolduc	Red		1			1		4
Ward Narhi	Blue	2	11		4			10
Steve Koehler	Green	4	4	1	1		2 Soldiers	7
Chris Geggus	Yellow		1	3		1	3 Soldiers, 2 Unplayed (Cathedral, Soldier)	7†
Kevin Wilson	Purple	1	2	1	1	5		8*
Bill Scharf	Brown	1	1		2	1	Soldier, 1 Unplayed (Soldier)	6

* Longest Trade Route

† Largest Army

-  Robber
-  Road Segment
-  Village
-  City
-  Fields/Wheat
-  Forest/Lumber
-  Pasture/Sheep
-  Hills/Bricks
-  Wasteland
-  Mountains/Ore



Canes Venatici

Turn 9

Deadline for Turn 10: 7/3 Tuesday

Commander Actions

SUPERB (Lowrey) buys a titanium factory (Or2, Wa4, Wa6,Wa9, Ti9) and two population factors (Wa10).

Mystery Machine 2 (Lewis) buys a water factory (Or4, Or4, Wa6, Wa8) and a population factor (Wa5).

S.A.R.A. (Cousins) buys a titanium factory (Wa7, Ti8, Mi15) and a population factor (Or3, Or4, Wa5)

Miller's (Scharf) opens the bidding on Scientists and gets it for 62 (Or2, Wa5, Wa7, Wa8, Mi20, DL discounts)

2113 Corporation (Cain) buys a water factory (Or5, Wa7, Wa9) and transfers a population factor from an ore factory to man it.

BarterTown V (York) buys a titanium factory (Wa6, Wa7, Ti7, Ti10) and a population factor (Or1, Or1, Or2, Wa6)

HBDC V (Wilson) opens the bidding on a Laboratory and gets it (Or3, Or4, Or5, Or5, Or5, Wa5, Wa5, Wa6, Wa6, Wa6, Wa7, Wa9, DL discounts). Moves a population over from the ore factory to man the research factory.

The Players

	Outpost Name	Commander	Factories	Upgrades	VP
1	SUPERB	Michael Lowrey	OrF, OrF, WaF, WaF, WaF, TiF, TiF, TiF	No, HE, Ec	19
2	Mystery Machine 2	Andy Lewis	OrF, OrF, WaF, WaF, WaF, WaF	HE, 2No, Wa, Ec	17
3	S.A.R.A.	Caleb Cousins	OrF, OrF, WaF, WaF, TiF, TiF	HE, No, Wa, OL	15
4	HBDC V	Kevin Wilson	OrF, OrF, WaF, WaF, WaF, ReF	Wa, 3DL, La	14
5	Miller's	Bill Scharf	OrF, OrF, WaF, WaF, WaF, WaF	2DL, Wa, OL, Sc	13
6	BarterTown V	Andy York	OrF, OrF, WaF, WaF, TiF, TiF	HE, No	11
7	2113 Corporation	Dennis Cain	OrF, OrF, WaF, WaF, WaF, WaF, TiF	HE, OL	10

SUPERB is Space Urchin Planetary Evaluation and Recovery Board. HBDC V is Heavenly Bodies Development Company V. S.A.R.A. is Supremely Arrogant Republican A@#\$^&*!

Available Upgrades

New Arrivals: Ecoplants and Laboratory

Upgrade	Minimum Bid	Available	TBD
Warehouse (Wa)	25	1	0
Heavy Equipment (HE)	30	0	0
Nodule (No)	25	0	0
Scientists (Sc)	40	0	4
Orbital Lab (OL)	50	1	1
Robots (Ro)	50	1	4

Upgrade	Minimum Bid	Available	TBD
Laboratory (La)	80	1	3
Ecoplants (Ec)	30	3	0
Outpost (Ou)	100	0	5

Your Production Cards:

Mystery Machine 2 and 2113 Corporation took Mega Water cards.

Dog Tired

Turn 3 Special Influence Declaration through Turn 4 Health Phase

Turn 4 Funeral Commission through Parade due: 7/3 Tuesday

Turn 3 Special Influence Declaration

ORRP plays Your Agends Are Everywhere (54) and dictates the order of influence declaration as: ORRP, TCC, FBI, HLS, RE, and IP. ORRP declares 2 new and 9 predeclared IP on Mikail Strychnin. TCC plays Miracle Drug on I, removing a +, then draws 2 cards. FBI draws 2 cards. HLS declares 1 IP on H and draws 1 card. RE draws 2 cards. IP draws 2 cards and discards Meteoric Rise(38).

Your cards are: _____

Turn 4 Cure Phase

FBI plays 3 IP on Schukrutoff and 1 IP on Shootemdedsky. Schukrutoff and Shootemdedsky go to the Sanatorium. Niewitko ages to 92, Krakemheads ages to 80, Strychnin ages to 67, Badenuff ages to 63, Shootemdedsky ages to 70, and Mischif ages to 69.

Purge

TCC plays Disarmament Talks Go Badly (15). Krakemheads attempts to purge Strychnin (dr = 4 +3, fails). Krakemheads ages to 83.

Spy Investigation

No action.

Health

Petr Niewitko (dr = 14) dies
 Karel Krakemheads (dr = 12) dies
 Mikail Strychnin (dr = 7) dies
 Boris Badenuff (dr = 5) dies
 Lech Schukrotoff (dr = 16) recovers to sick
 Alexej Gofebrook (dr = 3) falls ill
 Nikolai Shootemdedsky (dr = 20) recovers to sick
 Antonj Mischif (dr = 15) remains well
 HLS play Reagan Elected (37). In the following order (RE, ORRP, FBI, TCC, IP) all other players must either play a card or declare all available IP on any politician in the Politburo.

Notes

Steve Koehler has resigned as head of the Hard Line Stalinists, and Pasquale Giovine has taken over.

Politburo

Office	Politician	Condition	Influence
Party Chief			
KGB Head			
Foreign			
Defense			
Ideology	Lech Schukrutoff (B)	76 +	1 (ORRP), 3 (FBI)
Industry	Alexej Gofebrook (C)	74 ++	
Economy	Nikolai Shootemdedsky (H)	70 ? +	1 (HLS), 1 (FBI)
Sport	Antonj Mischif (I)	69 ?	

Politicians listed in **bold** are in the sanatorium.

Candidates: K, N, O, P, Z

People: G, L (++) , M, R, S, U, V, W, Y

Siberia: J

Kremlin Wall: A, Q, F, D, E, T, X

Your cards: _____

Your undeclared influence: _____

Players

Joe Carl Reform Expansionists
 Kevin Wilson October Revolution Reform Party
 Chris Geggus Floridian Ballot Investigators
 Mike Scott The California Connection
 Bill Scharf Ideological Purists
 Pasquale Giovine Hard Line Stalinists
 HLS have one wave.

Hounds of Tindalos

Turn 5

Turn 6 due: 7/3 Tuesday

Planning

English maintains 2 ships (\$8), buys 2 ships (\$24) and 4 soldiers (\$40) for \$72.

French maintain 4 ships (\$16) and buy 4 soldiers (\$40) for \$56.

Portuguese maintain 4 ships (\$16) and buy 4 soldiers (\$40) for \$56.

Spanish maintain 3 ships (\$12) and buy 4 soldiers (\$40) for \$52.

Outbound Naval Movement

English Moves to L. Dice: 1, 2, 3, 6. No losses

French Moves to N. Dice: 2, 2, 3, 6. No losses.

Portuguese Moves to O. Dice: 4, 5, 6. No losses.

Spanish Moves to H. Dice: 3, 5, 5. No losses.

Mining

English mine 1 gold in L, **French** loot 2 gold from the city in N, and the

Spanish loot 3 gold from the city in K.

Discovery

None.

Land Movement

Portuguese move 2 soldiers and 4 colonists from O to Q and 4 soldiers and 4 colonists from anchorage dot to O.

English moves 1 gold bar from L to fleet, 2 soldiers and 4 colonists from L to M, 1 soldier from L to I, 1 soldier from I to F (it's a climate 4 area with 1 native), 4 soldiers and 4 colonists from anchorage dot to L.

French moves 2 gold bars from N to fleet, 3 colonists from N to P, 1 soldier in P prospects, moves 4 soldiers and 4 colonists from anchorage dot to N.

Spanish 3 gold bars from K to anchorage dot, move 2 colonists and 4 soldiers from anchorage dot to H.

Native Combat

Portuguese: 2 natives and 1 soldier killed in Q. **Spanish:** 1 soldier and 1 native killed in H.

Native Uprisings

Climate is a 3. No uprisings.

Survival

Climate is a 4. **Spanish** lose 1 soldier in H and a colonist in K. **French** lose a soldier in N. **Portuguese** lose 1 soldier each in Q and X.

Political Control

Portuguese gain political control in Q. **English** gain political control in M.

Homebound Naval Movement

Portuguese: Dice: 1, 2, 2. No losses.

English: Dice: 1, 1, 3, 4. No losses.

French: Dice: 1, 3, 6, 6. No losses.

Spanish: Moves to K: Dice: 1. Loses 1 ship. Dice: 4, 5, 6. No losses.

Income

Portuguese: Political Control: \$120, resources: \$44.

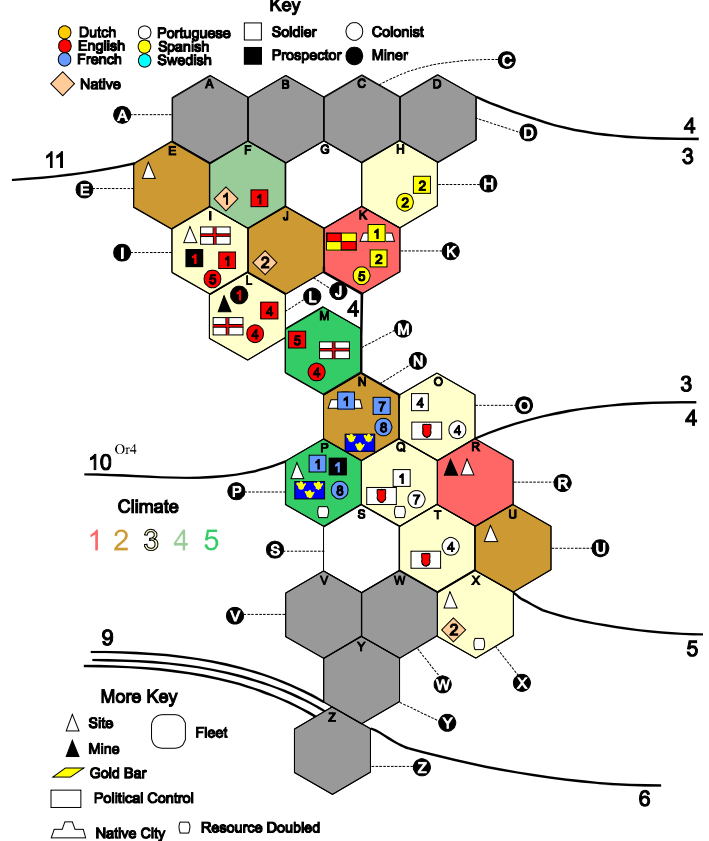
English: Political Control: \$120, resources: \$26, gold: \$40.

French: Political Control: \$90, resources: \$48, gold: \$80.

Spanish: Political Control: \$60, resources: \$14, gold: \$120.

Turn 6 Initiative

Spanish, Portuguese, English, French



Press

English – GM: Thanks for those wonderful naval movement rolls. One ship loss is bad but you got me twice. Ouch!

Spanish – GM: Where does that title come from?

Cerberus – Spain: I believe it originates in an H.P. Lovecraft story. I am familiar with it from a Roger Zelazny novel called *The Changing Land*, where they were depicted as elemental, angular doglike creatures from the beginning of time that can materialize out of any angle.

Players

Country	Player	Money	Available Soldiers	Ships	Colonists
English	Andy Lewis	\$203	10	4	4
French	Bill Scharf	\$337	14	4	4
Portugese	Bob Robles	\$224	13	4	4
Spanish	Dennis Cain	\$194	17	2	4

Hyena

Turns 1.1 to 2.1

Deadline for Turns 2.2 to 3.2: 7/3 Tuesday

Turn 1

1st: Dennis Cain (Dell/Delivering Extremely Large Loads) Rolls Used: 4 6

Galactic Base – NC4 - ? (It's a Y30 penalty marker, pays penalty) – Space Station.

Discovers Wollow (from the cup: Melf Pelt at 5, Demand for Genes at 2, Mulch Wine at 3, and Space Spice at 2).

2nd: Chris Geggus (Whynoms/Nostromo) Rolls Used: 4

Galactic Base – Y – R – B – R – B – Interstellar Biosphere

Discovers Volois (from the cup: Demand for Grease at 9a, Impossible Furniture at 8, Bionic Perfume at 1a, and 1 Melf Pelt at 5). Trades in IOU plus \$20 to buy 1 Voll Silk.

3rd: Bob Robles (Humans/NNR) Rolls Used: 4 5 5

Galactic Base – NC4 – Y30 – Space Station – R – Y – R – Neutron Port (Observes _____) – Y – B – R – B – R – Wet Landing(o) – Wet Landing(s).

Discovers Yxklyx (from the cup: Psychotic Sculpture at 10, Demand for Wine at 4a, Fare from 7b to Base, and Designer Genes at 9a).

4th: Andy Lewis (Eeepeep/Go for the Money Time) Rolls Used: 4

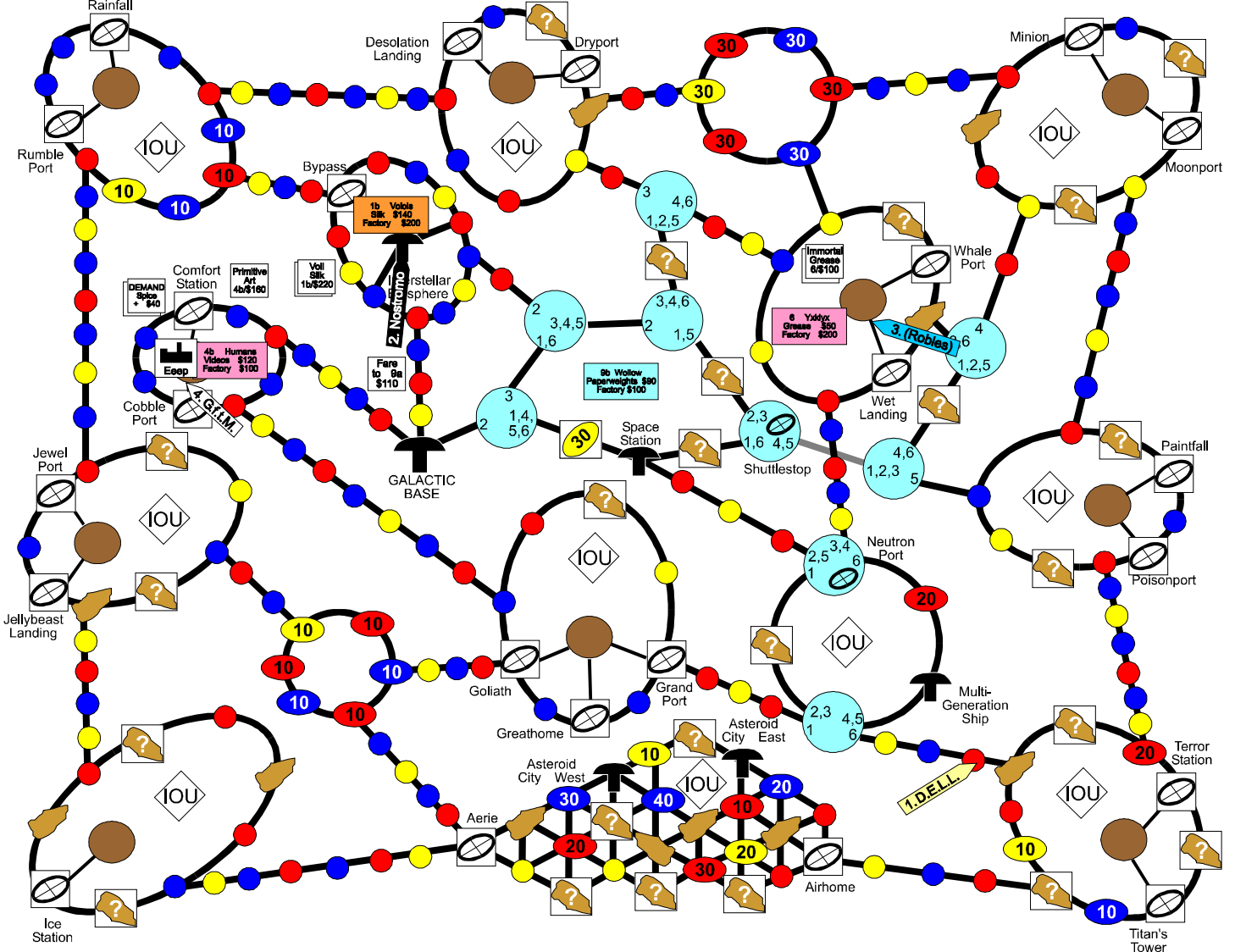
Galactic Base – R – B – Y – B – R – B – R – Cobble Port (o, observes _____) – Cobble Port (s).

Discovers Humans (from the cup: Immortal Grease at 6, Demand for Liquor at 9a, Space Spice at 2, and Chicle Liquor at 7a). Trades IOU and \$10 for Humans Factory.

Turn 2

1st: Dennis Cain (Dell/Delivering Extremely Large Loads) Rolls Used: 4 6

Space Station – R – Y – R – Neutron Port (observes _____) – R20 – Multi-Generation Ship – NC6 – Y – B – R.



Goods and Demands:

1a (Nillis): Nothing

1b (Volois): 3 Voll Silk

2 (Graw): Nothing

3 (Niks): 2 Mulch Wine

4a (Dell): 1 Finest Dust

4b (Humans): 2 Demand for Space Spice (+\$40)

5 (Shenna): 1 Demand for Mulch Wine (+\$40)

6 (Yxklyx): 1 Immortal Grease

7a (Zum): 2 Demand for Finest Dust (+\$50)

7b (Eeepeep): 1 Servo-Mechanism, 1 Demand for Finest Dust (+\$50), 1 Demand for Immortal Grease (+\$50)

8 (Whynoms): 1 Demand for Chicle Liquor (+\$60)

9a (Chola): 1 Designer Genes, 1 Demand for Immortal Grease (+\$50)

9b (Wollow): 1 Demand for Impossible Furniture (+\$70)

10 (Qossuth): Nothing

Base: Fare to 9a (\$110)

1. D.E.L.L. \$34
Scow Scout
3: 1 2 2 4 (Use 2)
Hold1 Hold2 Hull
9b \$90

2. Nostromo \$80
Fast Scout
2: 4 5 // 3: 2 4 (Double 1)
Hold1 Hold2 Hull
Voll Silk
1b/\$220

3. (Robles) \$70
Normal Scout
2: 3 4 5
Hold1 Hold2 Hull
6 \$100

4. Go for the Money Time \$90
Rocket Scout
2: 3 4 (Use 1 * 4)
Hold1 Hold2 Hull
Humans \$100

Dog Show

Gamestart

Deadline for Initial Bids: 7/3 Tuesday

The Players

Player	Country	Misery	Tokens	Money	Order	Dominance	Ships	Advances
Ward Narhi		0		\$40		0		
Bob Robles		0		\$40		0		
Paul Bolduc		0		\$40		0		
Caleb Cousins		0		\$40		0		
Dennis Cain		0		\$40		0		

Cards

Your initial card is: _____

Commodity Log

Commodity	Ward	Bob	Paul	Caleb	Dennis
Stone (2)	--	--	--	--	--
Wool (3)	--	--	--	--	--
Timber (4)	--	--	--	--	--
Grain (5)	--	--	--	--	--
Cloth (6)	--	--	--	--	--
Wine (7)	--	--	--	--	--

Commodity	Ward	Bob	Paul	Caleb	Dennis
Metal (8)	--	--	--	--	--
Fur (9)	--	--	--	--	--
Silk (10)	--	--	--	--	--
Spice (11)	--	--	--	--	--
Gold (12)	--	--	--	--	--
Ivory (12)	--	--	--	--	--

Notes

Maps have been included with all of your zines. House rules are available on the S.O.B. website. Please look them over.

Trivia Quiz

You get 2 points for a solo answer, 1 point for sharing the correct answer with one other person, and ½ point for sharing the answer with two or more people. Every 10 points earn you a free issue. Research is allowed. Free issues are credited as they are earned. Players may submit a list of questions (answers must be included.) If used, five points are awarded. In addition, if no correct answers are received for a question, the supplier of the question receives two points.

And so, without further ado, the answers to last issue's questions:

Q1. In a heavy fog, there was a serious road crash which involved two trucks and six cars. All the vehicles were severely damaged. Police and ambulances were quickly on the scene, where they found both truck drivers and took them to the hospital for treatment. However, no drivers from any of the cars could be found at the scene of the accident. Why?

A1. One of the trucks was a car transporter carrying 6 brand new cars.

Bill Scharf, Chris Geggus, Caleb Cousins, Ward Narhi, Joe Carl, Bob Robles, Dennis Cain, Brendan Whyte, Tom Howell, and Andy York all receive ½ point.

Q2. A man set out for a walk. At the end of his walk his head had traveled 40 feet further than his feet had traveled. He was a healthy man with all his limbs intact before and after the walk. So how did his head travel farther than his feet?

A2. The man walked around the Earth. Since he was walking on the surface of a sphere, his head, which was 6 feet farther away from the center of the sphere than his feet, travelled $2\pi \times 6$ feet further.

Bill Scharf, Joe Carl, Brendan Whyte, and Andy York each receive ½ point.

Q3. A lady has an expensive circular oak table and she wishes to find its exact center. How does she do this without marking the table in any way?

A3. She cuts a piece of paper exactly the size of the table. She folds the paper in half twice, along any two diameters (by easily matching opposite sides of the circle). Where the two folds meet is the center. She then places the paper on top of the table. (Solutions involving attempting to balance the table are not allowed because they could potentially result in damage to the table. The object was to find the center non-destructively.)

Brendan Whyte and Andy York each receive 1 point.

Q4. What happened in the second half of the 20th century and will not happen again for over 4000 years?

A4. The numbers of the year 1961 read the same if you turned it upside down. This will not happen again until 6009.

No correct answers.

Q5. Two drivers drove slowly and safely in the correct direction down a wide road before coming to a stop in front of a red stop light. A nearby police officer immediately arrested one of the drivers and let the other one drive off. The police officer had never seen or heard of either driver before. Neither driver had a criminal record. They were both fully dressed and no one had been drinking. Both cars were in excellent roadworthy condition and had not been stolen. The arrested driver was charged and convicted. Of what?

A5. This incident took place in Saudi Arabia in 1995. It is illegal for women to drive in Saudi Arabia. One driver was a man and the other was a woman. The police officer arrested the woman, who was charged and convicted.

No correct answers.

Current Scores

Chris Geggus	76	Andy York	62½	Paul Bolduc	56½
Caleb Cousins	53	Bill Scharf	53	Dennis Cain	47½
Joe Carl	43½	Brendan Whyte	42	Andy Lewis	33½
Ward Narhi	30	Steve Koehler	29	Bob Robles	25½
Tom Howell	20	Brad Martin	16	Kevin Wilson	8
Sean Cousins	7	Sigourney Street	½		

Ward Narhi and Tom Howell each receive a free issue.

Pedagoguery

By cosmological decade 40, the last of the matter as we know it is gone. Gone is all the gas and dust littering the galaxies, gone are the white and brown dwarves and the frozen planets. We are left with black holes and assorted light particles like electrons, positrons, and neutrinos. The universe is a cold and empty place, but not an uninteresting one.

As we learned in the last installment, protons are not forever. However, despite the fact that baryon number is not conserved, electric charge is. So, when a proton disappears, something that remains has to carry its positive electric charge. That something will be a positron, the antimatter counterpart of the electron. Thus, at this point in the far future, the balance between matter and antimatter is restored.

By this era, the universe has cooled significantly. Today, the characteristic wavelength of the background radiation is about a millimeter. By cosmological decade 40 it has been stretched to a kilometer. The universe is very dark.

At this time, the only entities that can provide energy to the universe are black holes. Black holes, despite their name, are not completely black. Black holes arise when a given amount of matter is compressed within its Schwarzschild radius. At that radius, gravity overcomes all other forces, and the matter collapses into a point called a singularity. This singularity is shielded from the rest of the universe by an event horizon. The event horizon is the surface at which the escape velocity of the black hole is equal to that of light.

It was Stephen Hawking who realized that there was a strange relationship between the mass of a black hole and a property called entropy. Entropy is commonly used in thermodynamics and is a measure of the “disorder” of a system. For example, a bookshelf with the books neatly stacked has a lesser amount of disorder, and hence a lower entropy, than one with the books in disarray. By pursuing this thermodynamical line of reasoning, he realized that black holes had an effective temperature, based on the mass of the hole. More specifically, the higher the mass of the hole, the lower its effective temperature. However, if black holes had temperature, they must radiate, and were therefore not entirely black. It is this Hawking radiation that powers the universe during the Black Hole Era.

Once a black hole is formed, we can know only three things about it: its mass, its electric charge, and its spin. Every other property of the black hole, its radius, temperature, entropy, etc., can be derived from these other properties. For example, for a black hole with a mass of one gram, its radius would be about 10^{-28} cm and its temperature would be 10^{26} Kelvins. By contrast, the radius of a proton is only 10^{-15} cm, while the core of the Sun is only at 10^{15} Kelvins.

Topic: Brain Teasers

1. A man wanted to construct an important building and he received offers from 100 builders, who each presented their qualifications and claimed to be the best builder around. How did he eventually choose between them?
2. The doorman at an exclusive club says one word to each prospective entrant. If the entrant answers correctly he is allowed to enter; otherwise he is rejected. A hopeful non-member observed carefully as a member approached. The doorman said, “Twelve.” The member replied, “Six.” A second member came up. The doorman said, “Six.” The member replied, “Three.” The man now decided that this was easy and stepped forward. The doorman said, “Ten.” The man replied, “Five.” The doorman angrily kicked him out. What should he have said?
3. A man uses a stick to strike part of an elephant and after a few seconds, it disappears. The man is a lot richer. Why?
4. A man walked alone for days across the desert. He did not take water or any kind of drink with him. He did not find water. How did he survive?
5. King Arthur gave one of the knights of the Round Table a bottomless metal container in which for many years he kept flesh and blood. What was it?

However, black holes are typically much larger than this. By cosmological decade 40, there will be only two classes of black holes around: the supermassive black holes at the center of today’s galaxies, and the stellar-sized black holes produced from the evolution of massive stars. If you take a typical stellar-sized black hole, one with 5 times the mass of our sun, its radius is about 15 km while its temperature is a mere 10^8 Kelvins. While this temperature is significantly colder than the background space temperature today, by the 40th cosmological decade, it will be significantly warmer. Finally, if you take a supermassive black hole with a million solar masses, its radius is about a million kilometers while its temperature is only 10^{14} Kelvins. Assuming the universe is flat, all but the very largest black holes will be warmer than surrounding space. This means that they will be losing mass. The radiation produced first by the decay of dark matter then by the decay of protons will delay this a bit, but not for long at the time scales of the era.

So, how many black holes will there be by the 40th cosmological decade. Well, each galaxy will contribute one supermassive black hole, and approximately one million stellar-sized black holes. Given that the expansion of the universe is not expanding, then the cosmic horizon will be 10^{30} times farther away than it is now. This will leave in the neighborhood of 10^{40} supermassive black holes and 10^{46} stellar-sized black holes in the observable universe.

Typically, these black holes will be the remnants of galaxies, and will thus orbit each other. However, orbits are not forever. Whenever two objects orbit one another, they give off gravitational radiation. This radiation slowly saps the orbital energy of the system causing the components to spiral into one another. Since gravity is so weak, though, this process is exceedingly slow. In the Black Hole Era, however, this little bit can really start to add up. In order to survive into the Black Hole Era, two black holes would have to be orbiting at least two light years apart. To survive into the 50th cosmological decade, the two stars would have to start 650 light years apart. To survive into the 60th cosmological decade, the two stars would have to start over 100,000 light years apart – the width of the Milky Way Galaxy. What happens when two black holes collide? They would merge, giving off all of the orbital energy of the pair in gravitational radiation.

How long will the era last? Well, as the black holes slowly evaporate, there will be fewer and fewer of them. A typical stellar-sized black hole evaporates in about 67 cosmological decades. A small supermassive black hole takes 85 cosmological decades to evaporate. The very large supermassive black holes,

with billions of solar masses worth of material, will evaporate in 98 cosmological decades. So, by the 67th cosmological decade, we will see a return of high-energy phenomena, and the first of the smaller black holes start to evaporate and explode. These explosions will briefly bring a return of short-lived, exotic particles like protons, but by this time, the life of a proton is an insignificant

instant of time. As time goes on and more massive black holes repeat the phenomenon, until the largest of the black holes have evaporated at about cosmological decade 100.

Next issue, I will discuss the final age of the universe, the Dark Era.

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Standbys

Anybody who gets onto my standby list automatically receives one free issue of *S.O.B.* In addition, if you actually submit standby orders, you get another free issue. So, let's get those people standing by. The current standby list is:

Machiavelli (gunboat and regular): Steve Koehler, Bill Scharf, Bob Robles, Mike Scott, Ward Narhi, Paul Bolduc, Joe Carl, Pasquale Giovine, Andy York, Phil Reynolds
Dune: Steve Koehler, Paul Bolduc, Kevin Wilson, Ward Narhi, Andy York
New World: Andy York, Bill Scharf
Merchant of Venus: Paul Bolduc, Carrie Lewis, Bob Robles, Andy York
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Age of Renaissance: Bob Robles, Michael Lowrey
Kremlin: Joe Carl, Andy York, Andy Lewis, Pasquale Giovine
Silverton: None
Settlers of Catan: Michael Lowrey

Standby Calls

Bill Scharf for Venice in Citizen Dog